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ORIGINAL ARTICLES.

DELAWARE DOCTORS.*

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A nursery and training school for great men, it is evident to even a casual observer that the climate, the food, the surroundings of Delaware, must be particularly well adapted by nature for producing the highest intellectual and moral attainments. Singularly enough the shape of your State on the map bears such a resemblance to the old-fashioned cradle that to one who is not attracted so much by glitter as by human grit, it is no small matter of surprise that it has not been called the "cradle" rather than the "diamond" State. The political, industrial and moral influence of your men and women has been beyond all proportion to the size of your State.

It seems useless to remind this learned body that insular and peninsular people have, in the past, played a mighty part in the government of the world. Ancient Babylon, Assyria, Egypt and Palestine, were countries traversed by mighty rivers and pierced by inland seas. To these doubtless they were greatly indebted for the commerce which broadened their views and made

their kingdoms and empires the residence, and their rulers the protectors of the more intelligent and enlightened of mankind. Grecian, Roman, Mohammedan, Spanish, Portuguese, French, Dutch, and English, people largely peninsular, have, each in their turn, swayed the sceptre of greatest power, at some time during their existence.

Delaware may be compared with Greece as to the climate and general conditions of the peninsula of which she forms a part. Surrounded on three sides by great political neighbors, with the fourth open to the sea and bay, she, like Greece, has maintained a position always independent, and often controlling; like Greece, when compared with her neighbors, she is famous; like Greece, she is fertile, agriculturally and mentally. Many are the names of her sons and daughters that are written in brilliant tints upon the roll of fame.

Fortunately it fell to my lot to look up that portion of her history which relates to the medical profession of your State. The richness of what, at first, appeared a field of limited possibilities, soon made the work a delight. The noble deeds, the scientific attainments

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and the intelligent pursuit by her devotees in the healing art, were unfolded before my eyes. The pleasure of rendering homage to Delaware's most modest worthies repaid, many fold, the labor and the time demanded by the research.

Soon perturbation disturbed the serenity of the work, from fear that my weak efforts would not be sufficient for the occasion. Then came a consciousness that made it seem to be a duty to the silent dead whose very delicate humility during life had much concealed their true merits. Finally, the hope arose that by the sounding of the call some slumbering giant might be awakened to fittingly recount the grand lessons of scientific charity and humanitarian love that your State's history unfolded.

The intelligence of a community and the accomplishments and culture of its professional men may be fairly estimated by the differentiation of the occupations of the individuals that compose it. Although great wealth does not, *per se*, always indicate the grade of mental enlightenment of the body politic, still thrift, capability, responsibility, prosperity and financial solidity are invariable attributes of a State wherein the community of the learned professions is supported with sufficient liberality of emolument to encourage men of notable ability to cast their lot there and become citizens.

The Colony of Delaware was very early the home of distinguished disciples of Æsculapius. Her record shows that in 1654 she had Dr. Tyman Stidham as a settler, 122 years before his adopted country issued the Declaration of Independence.

For twenty years this good man labored in his chosen field with marked success, for the annals of the Colonial government show that at his death he was possessed of considerable estate. His family, together with their descendants, whose names grace the archives of the settlements, were people of note and of great respectability. Many of the latter are still found within the vicinity of Newcastle and Wilmington.

To J. Thomas Scharf, A.M., the compiler, and Dr. Lewis P. Bush, the author of the work devoted to the history of the medical fraternity of Delaware, it is a

pleasure to acknowledge obligation. The accuracy of the biographical sketches has been verified in many cases by the testimony of Delawareans, by correspondence with George M. Sternberg, Surgeon General of the U. S. Army, and by others in positions that entitle them to authority of greatest merit.

Dr. Henry Fisher, who came from Ireland in 1725, was a well-educated physician. He was the father of several children, among whom a son, Henry, became noted for his patriotic devotion to the cause of the Revolution. His efforts materially supported his struggling country, and the success of the war, in your section, was in no small degree assisted by and due to his personal service in supplying for the patriot army vessels for river defence and pilotage. He was the progenitor of an influential family of your State, which, by fortitude and patriotic example, combined with personal thrift, trustworthiness and satisfactory discharge of responsible duties, together with charity to their fellow-men, have won respect and success.

Frequently has Delaware honored herself by selecting from this body of her specially-educated men, her most trusted statesmen. Of the numerous examples that may be quoted as evidence of the appreciation by your country of this profession's eminent scholars we cannot omit the names of the first President of the State, Dr. John McKinley; Dr. Joshua Clayton, its last President, and Governor for two terms, who closed his earthly career so full of honors while serving as a United States Senator. In its Legislature, Dr. Henry Latimer likewise attained to distinction that gained for him the envied position of a seat in the United States Senate, where Dr. James Sykes also served our country for fifteen years, and was finally elected Governor. Dr. W. T. Burton, Governor; Dr. Saulsbury, Speaker of the United States Senate, and Governor; and in the State and United States Senate, Dr. Arnold Naudain was another whose entrance into public life was originally through the doors of a medical college. In your own city there have been chosen as chief magistrates, men renowned for their skill, as Drs. James H. Hayward, J. P. Wales, Evan G. Shortlidge, and Charles R. Jeffries.

The history of your State shows that it was the third to recognize the importance of and to establish a State Medical Society. This was inaugurated by twenty-eight physicians as early as 1789. Later acts of the legislature empowered this Society to form a Board of Medical Examiners, with authority to regulate the practice of their profession, and without whose endorsement parties practising medicine were liable to penalties and fines. Now we find in the various States, laws based upon those entrusted to this initial society. The first President was Dr. James Tilton, of whom we shall have occasion to speak as one of the most important factors in the War of Revolution.

The study of the diseases peculiar to your locality was very materially advanced by the labors of the members of this Society, notably Drs. Snow, Barratt, Capelle, Tilton, Wilson, David Bush, and Edward Miller. The last contributed largely to the treatment and successful combating of intermittent and yellow fever by means of the then novel remedy, Peruvian bark, the alkaloid of which, quinine, is to-day one of the most universal and generally trusted remedies of the pharmacopœia. His correspondence abroad was probably in his day the most voluminous, and his reputation the most world wide of any one of his profession in this country, except, probably, Prof. Benj. Rush, a distinguished Philadelphian and signer of the Declaration of Independence, who paid the greatest tribute to Dr. Miller, saying that he was "second to no physician in the United States." The first Medical Journal of this country was founded by Dr. Miller, in New York, where he was appointed to the important position of Port Physician, Prof. of Practice of Physic in the University of that city, and attending physician to its Hospital. As a member of the Philosophical Society of Philadelphia he was well known. He was among the first to advise the drinking of water in fevers, which probably has alleviated the sufferings of mankind in this direction more than any other one remedy. He likewise was an ardent advocate of vaccination, together with Dr. Samuel Henry Black of your State, Dr. J. Redman Coxe, of Philadelphia, and Prof. Wm. Handy, of Baltimore. The last

two were so enthusiastic in their advocacy of this practice, that they each exposed a son to the dreaded disease to convince their contemporaries of the almost absolute immunity gained by the use of this virus. Dr. John Vaughan, a son of a physician, and a member of a number of famous scientific bodies, lectured upon chemistry and natural philosophy in your city as early as 1790.

In literature, as might be expected from such a body, eminence was early attained by your physicians. Several of whom, among whom might be mentioned Dr. Robert R. Porter and Dr. Samuel H. Black, possessed private libraries which were proudly pointed to by their fellows as examples of choice selections, and also among the largest private book collections in your State.

Dr. P. Brynberg Porter, who was born here, was formerly the editor of *Gaillard's Medical Journal*, and now is the New York correspondent of the *Medical News*, of Philadelphia, the *Journal of the American Medical Association*, and the *Boston Medical and Surgical Journal*, etc., etc. Dr. Robert Montgomery Bird, born in Newcastle, in 1805, was an associate editor and publisher of *The North American and United States Gazette*, of Philadelphia. He was likewise Professor of Materia Medica in the Pennsylvania Medical College from 1841 to 1843. As the author of "Nick of the Woods," and many novels, and the dramatizer of the "Gladiator," "Metamora," and other plays, he is well known throughout this country. Dr. Lewis Potter Bush, of Wilmington, was likewise a prolific author, and his papers upon the history of medicine in your State have made him a name throughout the profession in this country. In recognition of his labors, in 1886, he was elected President of the American Academy of Medicine.

Of the famous medical men of your State living to-day, I dare not attempt mention, except of those who in my own city are so widely known that it seems a work of supererogation to speak, and yet it would be an injustice and a positive neglect of my duty if I failed to mention Dr. James P. Lofland, associate of Dr. Franklin Bache, Professor of Chemistry in the Jefferson Medical College; Theophilus Parvin, M.D., the honored and world-wide known Professor of Obstet-

rics, author of numerous treatises, who to-day is loved and admired by all who know him. Prof. W. James Hearn, M. D., who stands second to none in our great cities for his ability, honesty and absolute trustworthiness, fills the Chair of Clinical Surgery in the same college. Dr. E. O. Shakespeare, the histologist and bacteriologist, Dr. Lewis Starr, the author of works on the diseases of children, and the late Prof. T. L. Buckingham, M.D., D.D.S., one of the founders of two dental colleges in Philadelphia. Martin W. Barr, M.D., the head of that noble and intellectual charity, the Pennsylvania Training School for Feeble Minded Children, which has been a blessing to those afflicted with that most sad of all ailments, imbecility.

Dr. W. G. A. Bonwill, born in your State, holds the credit of the practical adaptation of electrical force to automatic mallets, which probably were the forerunner of the modern wonders of electrical trip hammers and machines for rock drilling and tunnelling, to which the modern railroad owes an imperishable debt. Like Dr. Physick, who invented the surgical needle, with its eye at the point, without which sewing machines would probably have been long delayed in their arrival at their present state of perfection, this man was the progenitor of many modern inventions.

The late Prof. James E. Garretson was born in your city in 1828, where he passed his boyhood. Moving to Philadelphia, he pursued a course in dentistry, and graduated when 29. Two years later he passed successfully the examination for the degree of Doctor of Medicine in the University of Pennsylvania. From early life he had been an earnest student, with a strong inclination toward surgery, in which he became deeply interested, and in 1861 his association with Dr. D. Hayes Agnew in the Philadelphia School of Anatomy, ripened his attainments, so that he gradually created the new specialty, known as oral surgery. In this department he was the accepted authority in this country and throughout the English speaking world. His operations were of the most bold and terrible character, and yet, singularly free from fatal endings. As the inventor of procedures for the removal of bone and tumors about the head and

face, without leaving deforming scars, he was eminently successful. He filled, at various times, chairs in the Philadelphia Dental College and Philadelphia School of Anatomy, of which former institution he had been dean for many years. In the school of the philosophers he had excited considerable comment by a series of lectures for several winters in succession. Young men and women, mostly students of the colleges with which he was connected, flocked to his Tuesday night discourses, wherein his avowed object was the seeking for the deeper truths of life. He was prominent as one of the practical founders of the Medico-Chirurgical Hospital, and the Medico-Chirurgical College, in both of which institutions he served as the President. Their success under his administration soon became phenomenal.

Ceaseless as was his activity, he also gained fame as a literary man. His philosophical writings, designed to teach self-control and restraint as means to the highest end, were published in a series of volumes under the nom de plume of John Darby. In addition to this herculean task, he wrote the "System of Oral Surgery," which is considered the crowning work of his life, the present being the seventh edition. Through its agency, as I have been informed by a gentleman lately returned from abroad, he is probably as well known in Edinburgh as in Baltimore. As a humanitarian and philosopher he was probably less widely known than as a surgeon. His love for humanity and his desire to aid it were such that he realized within himself the ideal of human brotherhood. None were so poor or so sinful that they might fear to claim from him a brother's loving sympathy and help. Few but those who enjoyed his charity have any conception of its breadth. Firm in his belief in a divinity, he endeavored to implant high conception of the wonders of the All-knowing God, and yet, inasmuch as there were those who could not encompass his broad outlook, they questioned what his belief really was. Probably but few modern thinkers have so completely harmonized the various tenets and creeds of the Christian church as did he. His social life was the embodiment of virtue and earthly satisfaction. No words can adequately express the

refinement and depth of his devotion to duty, love and purity. Frugality, caution and far-seeing preparation for the rainy day, made him independent of that world which he never failed to assist, and it may be said of him, in his pursuit of pleasure as a philosopher, he rarely allowed it to divert his attention from earthly work to the disadvantage of provision for his family. When the temptation to give up the world in the physical sense for the metaphysical is considered, his life is an exhibition of the most remarkable and refined unselfishness. I quote the following opinion from a religious journal: "The finer side, the real man was little known, even to many who were in daily contact with him. While Dr. Garretson was prominent as a surgeon, a teacher, a writer, and a deep thinker, and a truly religious man, with qualities of mind and heart, the crowning one was his abounding love for humanity."

To know the inner man was to have seen him at the bedside of the sick, the poor, the sorrowful and the sinning. There he seemed God-inspired to try and save, and his tenderness and sympathy were Christ-like.

Through forty years of arduous professional work he was never too busy to respond to appeals for help, and they were multitudinous.

Distinctions as to charity and self-denial are so numerous and so patent throughout the medical profession that we have come to look upon them as natural and necessary qualifications of the physician. Your State's history is covered with glory in this direction. Dr. Nicholas Way, in 1793, welcomed to his private house in your city those who fled in terror from Philadelphia, and were dreaded by your towns-people lest they should bring with them that awful disease, the yellow-fever, which was hurrying hundreds to their last resting-place. His example of unbounded hospitality and fearless love caused his fellow-citizens to soon throw open their houses as refuges for the fugitives. How strange is fate! In the great epidemic of 1797 Dr. Way died in Philadelphia, a shining mark, whose death was undoubtedly caused by his personal and unflinching steadfast devotion to those to whom he ministered. In 1802 Dr.

John Vaughan was the only physician in Wilmington to fight this fever. Dr. William Draper Brinckle, likewise, in the cholera epidemic of 1832, distinguished himself so markedly at the Buttonwood Street Hospital, Philadelphia, that some of his many admirers had the Commissioner of Spring Garden present him with a magnificent silver vase.

Patriotism, by no means confined to any class or profession in our great country, has, however, flourished and been nurtured in hearts and families of doctors throughout the world.

Probably few, if any, have more truly deserved public recognition of their great works than Dr. James Tilton, before referred to as the first president of the State Medical Society of Delaware, who graduated in 1771, at Philadelphia. His eminence as a physician was, if possible, excelled by his devotion as a patriot. Entering the Revolutionary War as a lieutenant, he served with distinction, as also in his professional capacity as an army surgeon with Washington at Long Island, White Plains, and the retreat to the Delaware. At Princeton he found the army in a sad plight. Its efficiency was almost paralyzed by the enormous number of men sick in the Hospital, and the cause of American freedom was languishing and seemingly about to be completely extinguished by the prevalence of typhus fever. To Surgeon Tilton fell the task of preparing for these sick ones, which by reason of their poor food, confined quarters, and the general depression of spirits, were being carried off more rapidly by disease than by bullets of the enemy. As Surgeon in charge he quickly remodeled the entire Hospital service, breaking up the large hospitals, and dividing the sick into parties of six in a hut; each hut thoroughly ventilated and purified by the nascent creosote from the fires which were placed in the middle of the clay floors.

Probably without this device at that time Washington would have been defeated; and we know only too well to what great straits the country had been reduced, and believe that there would have been no hope of success if this scourge had not been arrested. It is but fair to claim that American inde-

pendence would very likely have suffered either total extinction or a long delay, had it not been for this son of Delaware. At the close of the war, when the number of army medical officers was being reduced, Washington personally advised the retention of Surgeon Tilton. After the final surrender of the British at Yorktown, in 1782, he returned to practice in his State from which he was sent to Congress, and after holding several positions of public trust he was appointed the first Surgeon-General of the United States Army, doubtless in recognition of his incalculable service at Princeton. Although a great sufferer, he energetically inaugurated and carried out many reforms in the Army Medical Corps. After an amputation of the thigh when nearly seventy years old, he lived some seven years more, to enjoy the honors and love of his fellow countrymen, who delighted to pay him respect. His colleagues of the Delaware State Medical Society erected a monument over his remains, as an humble tribute to his works and his eminent services, both to the profession and to his country. It seems probable that his success was very early provided for by his study on the subject of respiration, which he wrote upon in his examination for the degree of B. M.

Delaware inscribed on her roll of honor the names of many who were heroes of the wars of the Revolution and of 1812. Dr. Jacob Jones, known to every school-boy as Commodore Jones, commanded the U. S. S. *Wasp* in that ever-memorable battle, which terminated within forty-three minutes in the capture of H. B. M. S. *Frolic*. When the hearts of the soldiers of our struggling little republic were sickened and saddened by repeated defeats, this, with a series of other glorious naval victories, revived the hopes and renewed and redoubled the efforts of our patriots, both afloat and ashore. To this may be added a second fortunate juncture, in such a victory by our fleets that it may be said to have virtually closed the war of 1812. From the very jaws of defeat and death, the battle of Lake Champlain may be said to have snatched the oriflamme of victory and thus lead the way to the final overthrow of all attempts and long-cherished hopes of the

Mother Country to regain by force of arms her sovereignty in our land. Commodore Thomas Macdonough was the son of a physician who, in his youth, was one of the staunch Revolutionary patriots who served his country in the army as a volunteer. Like many others of his day it appears that he left but little for his son save an honorable name and that love of his country which made him the winner of that country's most profound admiration, which was publicly attested by well-deserved votes of thanks of State Legislatures and the U. S. Congress.

This gallant officer, as you well know, has never been duly appreciated by the majority of those who have written the histories of our country. As Delawareans, I trust you will pardon me for dwelling for a few moments upon the importance of this victory against a combined invading English Army and fleet near Plattsburgh, and off Cumberland Head on Lake Champlain. All who have read United States history know that he met 12,000 men of the English Army, under Sir Geo. Provost, and seventeen vessels carrying ninety-five guns and about 1,000 men under Commodore Downie, of the English Navy. Our hero conquered with a force of only 820 men, with eighty-six guns and fourteen vessels, some of the latter having been constructed and launched within forty days of the felling of the timber of which they were built.

To Macdonough, his officers and men, was due the successful building and equipment of this fleet. To them belongs the glory of having completely defeated a well-disciplined and carefully-organized force in what was pronounced by all judges to be the only scientific battle between a fleet of the United States and Great Britain. To the energy, courage, and training that accomplished the manœuvres that decided the victory, our whole country is everlastingly indebted. It was an almost providential repulse and total overthrow of an enemy and capture of a fleet of invasion which were designed to seize and hold a line of military posts extending along the chain of Lakes and the Hudson River. Had the British succeeded in this project they would have severed from the United States the eastern section of this

country. Probably they would have destroyed our independence, or at least effected the subjugation or alienation of New England. In parts of the Eastern States at least, it is a question as to whether the war was not already sufficiently unpopular for this blow, if completed, to have compelled the patriots of this section to succumb to dark fate—a condition which would at the very best have so seriously crippled our infant Republic as to have made a mighty change, the result of which, happily, we are saved from even speculating upon. This, therefore, was one of the greatest and most momentous turning points in the world's history, and its success was due to the victorious leadership of a son of a Delaware doctor.

The hour grows late, and yet the task before me is far from finished; many are the names omitted of those richly deserving, whose lives have merited immortal blessings. Such, however, in the calm enjoyment of their heavenly recompenses, have passed beyond the border where the tongue of earthly praise can afford them a moment's thought. Lifted to the highest moral, intellectual, and heavenly joys, associated with the spirits of the good of all

ages, their lives are fully occupied in pressing forward with that innumerable host of angels whose joys can never cease, grow dim, sleep, flag or waver.

As you see, my task was confined to members of one profession of your State. Imagine, if we can, what it would be if one had the time and the ability to justly portray the merits, virtues, and deeds of the rest of this truly great people. Surely no one born or living in Delaware can lack for examples upon which to model his life for the accomplishment of greatness. Three times have you seen in this very limited field the destiny of the whole nation balanced upon the scalpel and the swords of three of Delaware's born and reared sons—once in the Camp Hospitals, once upon the high seas, and once upon the historic lake. How pleasant it would be, did time permit, to spend a portion in reminiscence of another whose character was as true and pure as his valor was unquestioned.

But I must stop myself, for the subject is as fascinating as my powers are mediocre, and I fear that while the theme could never weary you, the narrator has.

THE MALARIAL PARASITES.*

E. G. MATSON, M.D., PITTSBURGH, PA.

The malarial diseases have a greater power to restrain increase of population than any other, or, perhaps, than all others. This is true because there is a more general predisposition to them than is the case in other transmissible diseases, and because attacks are not followed by immunity. No age, sex, race, or previous condition of malaria, is exempt. In Weyls' Handbook of Hygiene, Stutzer shows that the belief that the indigenous colored races escape malarial infection in regions where white immigrants suffer is not warranted by the actual facts. The frank manifesta-

tions are not so common, but the spleen of almost every inhabitant of the malarious districts has been shown to be enlarged.

Stutzer also adduces abundant evidence to show that the white races do not tend to die out in the tropics on account of the high temperature, but in consequence of malaria. If the solution of the problems connected with the spread of this disease should bring with it the knowledge of the means of suppressing it, greater political changes shall follow than have yet taken place on the face of the globe; for the European peoples will then give rise to dense populations in the tropics, and the most vig-

* Read before the Allegheny County Medical Society, February 18, 1896.

orous race of mankind will gain for the theatre of its development those regions in which the powers of nature are greatest.

Long before the infective agents of other communicable diseases were discovered, they were known to be conveyed by certain discharges and excreta from the organs which are the seat of the chief lesions. This has been confirmed in many instances by an actual demonstration of the germs in these matters. In malaria, however, no such virus was known. It is obvious that a disease which spreads through a community by means of infectious matter coming from the sick in virtue of the movements of goods and persons will be imported into populations where it was previously unknown. On the other hand, if the infectious agents do not leave the bodies of the sick, a person may go to a healthy community and be ill there without disseminating the disease. Two conclusions thus seem justified by the history of malaria: in the first place the parasites must live in the body where they are not carried by excretions or discharges; and in the second place, since universal predisposition without universal exposure could not account for the prevalence of these diseases, we must assume that the parasites have a great power to live and multiply as independent beings in the outside world.

The blood and the ductless glands are thus indicated as the breeding ground of the parasites in the body. Before the discovery of the hæmatozoa, other facts were known which pointed in the same direction, viz: the anæmia, with great diminution in the number of red corpuscles, pigmentation of the white corpuscles and similar cells in some of the organs, especially the spleen.

Malaria has now and then, it is said, appeared in epidemic fashion in places where it was previously unknown. Even pandemics of malaria in Europe are mentioned. The last of these was in 1848, a year of great civil commotion, and of epidemics of influenza and cholera. A pandemic is decidedly inconsistent with all our other knowledge of malaria. It is, however, not inconceivable that a person suffering with the disease might here and there have seeded

fresh territory with organisms in his blood. Thus they might arise from a corpse containing them buried in the earth, or from a hemorrhage, whether spontaneous or of a wound. The writer does not mean that actual epidemics on new territory are known to have appeared after such antecedent events, but an inoculation experiment by Di Mattei shows how this might be possible. A child suffering from remittent fever had epistaxis. In this blood crescentic parasites were found, as also in blood drawn in the usual way. Two cc. of the epistaxis blood when injected into a previously healthy person produced an entirely similar attack, with the same organisms in the blood after an incubation period of fourteen days. It is thus conceivable that new territory might be seeded with malaria parasites as a rare event.

From what has been said, it is evident the theory that malaria is due to parasites which only multiply in the blood and the blood-making organs, is in exact concordance with the fact that these diseases do not manifest peculiarities of either contagious or infectious diseases, unless it be in the most exceptional degree, notwithstanding that a larger proportion of the population is attacked than by any of the latter.

Laveran published his discovery of the plasmodium malarie in 1882. He had found these organisms in cases of malaria both in France and Algiers. Very soon afterward Marchiafava and Celli published similar results, and since their time the Italians have made the greatest contributions, doubtless because the disease is more common in their country than elsewhere, and facilities for research abound. A multitude of observers have found these parasites in cases of malaria in every country in which they have been sought; Germany, Croatia, Servia, the United States, Brazil, South Africa, and so on. They are found in such a great proportion of cases examined that there seems to be no reason to believe that the few failures were due to anything but technical defects or difficulties. A patient search is sometimes required. Grawitz, in describing a case in Gerhardt's clinic, declares that he only found a few after an entire forenoon. In some severe tropical

cases, such as the black water fever of East Africa, so named from the appearance of the urine, they are said to be only present in the blood-making organs. In 1892, Senator, of Berlin, speaks with enthusiasm of the examination of the blood as a means of diagnosis. In the case of a woman with whom he was unable to communicate, and of whose history he was totally ignorant, he was able both to diagnose the disease and predict the time of the attack, from the examination alone. The wide use of this method of diagnosis has done much to show the association of the organisms with the clinical signs of the disease. On the other hand, we have also strong evidence that the blood is free from hæmatozoa in persons who never have had malaria, and who do not afterward develop it.

Nothing further seems necessary, except to show that these organisms, when introduced into the circulation, are capable of producing the clinical symptoms of malaria. This has been accomplished by both the intravenous and the subcutaneous injections, into healthy persons, of the blood of others suffering from malaria and containing the organisms. The intravenous injections seem to have always proved successful, the subcutaneous not invariably. According to Di Mattei subcutaneous injections are equally successful if a larger quantity of blood is used. He, himself, succeeded in two cases with 2 cc., and failed in two with 10. Nearly half the recorded experiments were done by subcutaneous injection. The injection is followed by an incubation period lasting from six to eighteen days. These actual results of experiments may be compared with the six to twenty days mentioned by Hertz, in Ziemssen's *Cyclopedia* as the current view before Laveran's discovery.

This question, however, was immediately complicated with another; namely, the unity of the hæmatozoa, and the unity of the malarial infections. All agree that the organisms pass through several phases of development. Laveran believed there was but a single organism, of which all discovered forms were phases. The Italian writers took the same view at first. Golgi, however, soon asserted that there were several

organisms, each one of which corresponds with a well-known type of the disease. Clinicians have naturally believed in the unity of the intermittents struck by the periodicity despite the different lengths of the interval. This periodicity, however, is found to correspond with the cycle of development of the organisms, and is therefore proof that the cycle of some is longer than others, under exactly similar conditions. Thus, in the quartan and tertian forms, the organisms are first seen as amœboid bodies resident in the red corpuscles, and growing at their expense. Presently they contain pigment derived from the hæmoglobin. This pigment is the melanin found in malarial cachexiæ. After increasing in size they finally appear as rosettes, which means that they are ready to break up and discharge their spores. The appearance of the rosettes indicates an approaching attack. This cycle is two days for tertian and three for quartan. The breaking up of the rosettes is accompanied by a discharge of the pigment in their center into the blood stream. The pigment particles are thereupon seized by the white corpuscles of the blood. The Italians distinguished these two forms by their appearance. Other authors appear less confident. A third form has the appearance of crescents, when at the height of development. They are round or oval at first, gather pigment at the expense of the red corpuscle which they inhabit, and then mature. According to Di Mattei and others, these parasites are found in malaria without definite periodicity. There is fever lasting for several days, of irregular type, which, after several days of apyrexia, may begin again, and so on, in succession. The tertian and quartan are very decisively influenced by quinine in the experimental cases; the irregular form prove much more refractory.

The flagellated type of the parasites does not seem to be placed as yet by the Italians.

We miss quotidian fever from the scheme. Di Mattei implies that this is always double tertian or triple quartan. In the first instance, there are two generations of tertian parasites present in the blood at the same time, which mature on alternate days; but each gener-

ation requires two days to complete its cycle. Three generations of quartan parasites would produce a similar clinical effect. Quartana duplex implies two generations, and one day in three when none mature and there is no attack.

Mattei publishes two tables containing twenty-eight distinct injection experiments upon the human being. Twenty-two of these are Italian. The first eleven, up to 1889, afford considerable evidence of the effect of these parasites in producing the clinical symptoms of malaria, but are defective in lacking an examination of the injected blood, or the blood of the person injected. In some cases the patient had already had malaria, or his previous history was too insufficiently known to exclude it, or he passed from observation too soon.

In the table of experiments since 1889, seventeen cases, which were carefully studied before, during and after the experimental attack, are given. If the explanation of quotidian fever is accepted, these experiments show very conclusively not only that the parasites are capable of producing the clinical symptoms of malaria, but that each type of fever breeds its own type of fever, which is always characterized by the same type of organisms as were found in the injected blood.

Several species of plasmodia may co-exist and produce the most varying types of the disease. The only experiments in producing mixed infections, met with by the writer, are two by Di Mattei. After keeping a case each of quartan and irregular fever, neither of which had had a previous attack, under observation for a long time, and finding both that the clinical form and the parasites in many examinations were pure in type, he injected the blood of each into the other in a period of coincident apyrexia, with the result that both the parasites and the clinical form were interchanged and the original parasites were interchanged. A time was chosen when the original parasites were found in diminishing numbers, and these experiments can hardly countervail the observations which have shown that more than one kind may coexist. And indeed this is not Di Mattei's view.

The casual relation of these blood parasites to the various forms of malaria

would thus appear to be definitely proved. All the canons laid down by Koch are observed, with the advantage that the experiments have been tried by human beings. Pure cultures are not obtained and carried down through many generations, it is true, but this is unnecessary except to obtain a material free from other germs; or, as was felt necessary in the early days of bacteriology, to avoid by dilution the effect of poisonous matter derived from the original patient to which the disease produced might have been attributed. The correspondence of the cycle of development of the organism, and the periodicity of intermittents, is a point of evidence peculiar to these parasites. After the use of quinine, methyl-blue, and the like, it is found that when the symptoms are brought to an end, the organisms have disappeared also. Furthermore, the fact that the malariae are either never or seldom propagated in the guise of infections and contagious diseases, is in perfect accord with the fact that they are due to blood parasites.

On the other hand, we are left to conjecture when we approach the question of their habitat in the outside world. No one as yet seems to have discovered them anywhere else except in the blood of human beings. Attempts to inoculate several species of animals, including four apes, have always failed. The question is open to solution in the future.

"That's a wonderful light that foreign scientist has discovered," said Hicks. "It's so strong that if you let it shine through a pocket-book a camera will make a picture of money in it."

"Jove!" said Wilbur. "I'd like to have some of that. If it could make a picture of money in my pocket-book I'd have an easier time with my creditors."

—*Harper's Bazar.*

One sweet, motherly woman says: "Men hire substitutes to go to war, to dig wells, to clean streets, but they do not hire other eyes to look at beautiful pictures, other ears to listen to exquisite music, or other hearts to feel rapture. So, to no other woman will I pass along the pleasure of nursing my own baby."

—*Exchange.*

STRANGULATED FEMORAL HERNIA: OPERATION FOR
RADICAL CURE.

J. B. CRANDALL, M.D., STERLING, ILL.

Mrs. Mary O'B., a resident of Sterling, of Irish nativity, about sixty-five years of age, the mother of a large family now of mature years, told me, while getting her history, that about the time of her last childbirth in 1875, she noticed a tumor in the left groin; never had any trouble in reducing it and, to prevent recurrence, she had at different times worn a truss.

My first examination was made on the 30th of October, 1895. I found a tumor of moderate size in the left groin, under Poupart's ligament. The patient was a woman pretty well preserved for one of her age. Never had been under a doctor's care save for childbirth; was of ordinary build; some five feet six inches in height; weight about 133 pounds.

In making our differential diagnosis we had many complications to consider, as the condition may be mistaken for certain local diseases, coincidentally or causatively attended by constipation, vomiting and nausea. All of these symptoms were early present in this case. The femoral glands were somewhat enlarged over the saphenous opening. These could be distinguished from the main tumor after excluding all the natural complications, such as a varicose saphena vein when enlarged into a globular tumor; second, a lipoma which may be taken for an omental hernia; third, a cystic formation, which was noticed in this case, although not of large size; fourth, other tumors of adenoid or sarcomatous nature. All of the above were excluded with the single exception of a small cyst that was not fully established at our early examination.

After noting these general exclusions, with her past history for a factor, there was no further doubt as to the nature of her case, which was strangulated femoral hernia, and that prompt action was our only hope for ultimate success. Therefore on the following

morning, October 31, 1895, with the assistance of Drs. Keefer and Alexander, we put her under the influence of an anæsthetic and tried to reduce the hernia by taxis, which failed. We then placed her upon an operating table and proceeded with the operation. The anæsthetic was sulphuric ether with a few whiffs of chloroform during the latter part of the operation. I first made a slightly curved incision some two and a half to three inches long through the integument. The line of incision was slightly curved and a little to the inner side of the axis of the crural canal. After twisting a small branch of the external pudic artery with hemostatic forceps, with the use of a director I cut through the cribriform fascia and femoral sheath; next the sub-serous adipose tissue covering the sac up to the femoral ligament, continuing on the curved hernial director we divided up as far as Poupart's ligament. Owing to old adhesions it was necessary to open the sac, which we did by pinching up a small portion of it. From the opening, a small amount of greenish serum exuded. With the handle of the scalpel and the fingers we broke up the old adhesions, ligated a portion of the omentum that was separated from the intestine, with the exception of a very slim and narrow attachment. We also ligated a small cystic tumor with the surplus amount of the old sac.

The intestine was healthy and we had no further trouble in its reduction. We had no hemorrhage during the operation. Our toilet was made by closing up each successive layer with catgut sutures, cut short and buried. After giving the exposed external cut surface a sprinkling of iodoform we closed the integument with silk-gut sutures, taking great care to approximate the edges. Over this we placed several thicknesses of iodoform gauze, with an over dressing of borated cotton; finishing the dressing with a spica bandage.

The after-treatment consisted in giving small doses of pulverized apia which acted very nicely in allaying nervous irritation. We catheterized the patient for two or three days; afterwards had no further trouble as she was able to void her urine freely. Her bowels moved on the fourth day, after a mild cathartic followed by an injection per rectum.

As the case was progressing satisfactorily the dressings were not changed for the first week. Upon their removal we found that the dressings were not soiled by any discharge from the wound, and that union was taking place by first interlisions. We removed the integument sutures on the tenth day, with the wound healed.

As a precautionary measure we kept her in bed, with knees flexed, for three weeks. I then applied an elastic abdominal support with a smaller support over the groin, and allowed the patient to sit up and to move about the house.

December 30th, our patient is able to be up and walk about the house, and tells me she has not felt so well for a

long time. She has no inconvenience from her old disability, her mind is relieved, and she is very much pleased with the results of the operation from which she never expected to recover.

Comments.—Here we have a case that would undoubtedly have died from resulting inflammation, if active measures were not taken on the start, but by prompt action and a timely operation she is a living example of what modern surgery can accomplish. If we are to continue in the same line, let every member of the profession, in all cases when surgical assistance is the only rational plan to pursue, act with promptness. If uncertain as to diagnosis, it is their duty to the patient to call for counsel, and to call for it early, that each one may have all the benefit that is derived from a timely operation, if one is required.

N. B.—This operation was performed in the family kitchen. The only precautions were to have everything used about the patient boiled in ordinary city water—using great care to have everything absolutely, surgically clean.

CYCLING.

Within the present decade, after two or three generations of ineffectual experimentation, the art of riding on wheels has been brought to a practical success. Bicycles in the last few years have divided public attention with the electric lamp and the trolley car. Newspapers, medical journals and popular magazines have teemed with articles concerning this new adjuvant to human muscle. Every variety of opinion is expressed by men, women, and scientists, as to the healthfulness, propriety and fitness of the new locomotion for women, children, and others. One result, however, is apparent. The use of the wheel is rapidly extending, and is not likely to diminish. When the sewing-machine was first introduced it was much written against as to female well-being. That opposition has long since passed away. Common sense and medical skill met this

danger. All women may not use the machine. Some may, perhaps nearly all. The physician should have a say. So in cycling. Some people should not venture; others will be wonderfully benefited. The doctor must be the judge, just as he should be in the gymnasium and the school-room. We all know that scores are injured by athletics, and that hundreds, perhaps thousands, are sacrificed in the schools. Yet the gymnasium and the school are indispensable, and along with them the skilled physician. Experience is teaching the necessity of this latter adjunct, and the medical inspector of schools is recognized as a factor in education in all advanced communities. The child has no business in school unless under medical supervision. Man, woman, and child has no business on the wheel unless under medical supervision.—*Health Bul.*

CURRENT LITERATURE CONDENSED.

The Disadvantages of Non-Absorbable Sutures in Operations for the Radical Cure of Hernia.¹

My personal experience with non-absorbable sutures in hernia operations is confined to three cases in which silk was used. In one of them, operated by Czerny's method, the wound healed by primary union, but soon after leaving the hospital a sinus formed in the cicatrix and refused to heal until the offending sutures had been removed. The canal had been so weakened by the supuration that relapse occurred three months after the operation, although a truss had been worn the entire time. A second operation was then performed, this time by Bassini's operation, with kangaroo tendons for the buried sutures, and the patient is now sound, three years after without having ever worn a support. In two cases operated on by the Bassini method, silk was used, and both failed to heal by primary union. In one, the sutures all sloughed out, and relapse occurred soon after leaving the hospital. In the third case, moderate suppuration occurred, necessitating keeping the patient in bed after five weeks. The sutures did not come out and the patient had no recurrence three years after operation. In two hundred and fifty cases of hernia operations in which I have used kangaroo tendons for buried sutures I have not had a single instance of sinus formation, and the percentage of primary unions has been ninety-six per cent. Ten cases were observed during the past year at the Hospital for Ruptured and Crippled, in which non-absorbable sutures led to bad results, although the operators were men whose reputations for careful aseptic work were sufficient guarantee that the result was not due to faulty technique. The presence of a suture in a hernia canal after firm union has taken place results rather in harm than benefit. Even the tendinous structures that go largely to make up the walls of the hernia canal require no

more than eight to ten weeks for firm union. The ideal suture, then, would be one that would hold the parts in opposition for this length of time and then disappear by absorption. In kangaroo tendon we have these conditions perfectly fulfilled. There has never been observed in the Hospital for Ruptured and Crippled a single case of delayed healing sinus when tendon or absorbable suture was used.

Chronic Alcoholism Treated Empirically With Apparent Cure.²

The patient was a soldier who had for the past ten or twelve years indulged at intervals of three to six weeks in debauches, lasting days, or even weeks. He was in the hospital for alcoholism in April, 1895, and in May was placed on a treatment which in nine days resulted in cure. He entered the hospital after a debauch of a week's duration, unable to converse intelligently, breath foul, tongue coated, and tongue and extremities markedly tremulous. There was considerable gastric irritation, with constipation, and a cathartic of magnesium sulphate with black coffee and strong beef-tea was at once given. A hypodermic injection—consisting of 0.031 grain of sulphate of strychnine, 0.007 grain of sulphate of atropine, and 0.123 grain of sulphate of morphine—was ordered to be given three times daily, and at these times the patient was allowed to drink as much whiskey or brandy as desired, which was considerable during the first thirty-six hours. Immediately after the alcoholic a hypodermic injection of hydrochlorate of apomorphine, commencing with 0.062 grain and gradually increasing to 0.092 grain was given, the intention being to cause a gradually increasing nausea. The patient was repeatedly impressed with the idea that the drugs given were incompatible with alcohol, and that their continued use would result in an intolerance of the system to alcohol. All craving for

¹ William B. Coley, M. D., *The New York Medical Journal*, February 29, 1896.

² Edward L. Munson, M. A., M. D., *New York Medical Journal*, February 29, 1896.

liquor disappeared at the end of the second day, and on the third day whiskey was very distasteful, but was ordered continued in doses of from thirty to forty cubic centimetres, as before. On the fourth day the atropine and morphine were discontinued, and the strychnine sulphate increased to 0.046 grain, which appeared to be about the limit of tolerance, and this treatment continued for three days. On the seventh, eighth and ninth days the whiskey was omitted once daily, and at these times a hypodermic injection of distilled water was substituted for the apomorphine, the previous conviction that the nausea and vomiting were due to antagonism between the drugs and the alcohol being thus strengthened. At the end of nine days the above-described treatment was stopped, and a simple tonic of nux vomica, cinchona, and gentian ordered to be taken for a fortnight. At that time the patient was nauseated at the thought, sight, and smell of whiskey, and this condition has continued up to the present time—for a period of nine months.

Bicycle Riding a Factor in Prostatitis and Stricture of the Urethra.*

Bicycle riding with the common saddle, such as is sold with the majority of the wheels, causes a disease of the prostate and urethra, the severity of which is in proportion to the amount ridden and the relation of the buttocks and perineum of the rider to the saddle. I have been led to study the subject by a number of patients coming to me with prostatic and urethral irritability, and denying venereal history. In some cases their honesty was unquestionable. It has been my experience so far to have seen more cases due to the bicycle than to "cold and damp." I think the gonococcus has been present in cases which have not used a wheel, and give a history of having caught their trouble from sitting on a cold stone or damp grass. I have used a wheel, and consider the exercise most healthful when taken in moderation and on an anatomical seat. Such a seat I have not yet seen. Stric-

ture is always preceded by urethral inflammation and these cases of contusion and concussion by the see-saw motion of the body over the hard, horizontal bar (saddle producing the congested urethra) offer a fertile soil for the formation of a stricture.

Finances!

A physician, who is noted for a vein of dry humor and wit, as well as his attainments in medical science, related the following, which is quite apropos in these times of bank suspensions and scarcity of the circulating medium.

Seated in his office, thinking seriously of the large accumulation on the debit side of his ledger, without appropriate entries on the other side, then entered a dusky daughter of Africa, and the following conversation took place:

DINAH—Doctor, I've come to see if yer can't do somethin' for this swellin'.

DOCTOR—Does it give you any pain? Does it hurt you any?

DINAH—Oh! No sir; it don't hurt at all. I'm jest gettin' all swelled up here (putting her hands on the lower part of her abdomen), and I think I can feel somethin' movin' round in dar.

DOCTOR—Well, er, what is the state of your finances?

DINAH—Oh! Dey's done all stopped; habent seed nuffin of 'em fer five or six months.

What the Nations Eat.

A statistician compiled the following figures, showing the cost of nourishment for the various nations: The average Englishman consumes \$250 worth of food per year; Germans and Austrians, \$216 worth; Frenchmen, \$212; Italians, \$110, and the Russians only \$96 worth of eatables per year. In the consumption of meat the English-speaking nations are also in the lead, with 128 pounds of meat a year per capita of the population; the Frenchman using 95 pounds; Austrians, 79; Germans, 72; Italians, 52; Russians, 50. The consumption of bread is reversed being compared to that of meat. The English use 410 pounds a year; the Frenchman, 595; the Austrians, 605; Germans, 620; Spanish, 640; Italians, 660; the Russians, 725.

* William Warren Townsend, M. D., *New York Medical Journal*, February 22, 1896.

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PHILADELPHIA, SATURDAY, MARCH 23, 1896.

EDITORIAL.

CONTEMPORARY MEDICAL LITERATURE.

How many of our readers realize the value of medical magazines and of reprints? How many have succeeded in dispossessing themselves of the idea that literature can not be useful unless it is stiff in binding as well as price? We started in professional life with the notion that a man's ability was marked by the size of his library. We soon learned, however, that even a moderate professional income could buy more books than could be read in the leisure afforded by the corresponding moderate practice. We found that "the man of one book" was not only a formidable contestant, but was very well prepared

for much practical service. We learned that two books on practice of medicine overlapped to a considerable degree, barring inconsistencies that could not be explained on the supposition that both were carefully prepared and based on actual experience. We remember, as a student, being invited to a hospital to see a series of cases of chicken-pox, and afterward reading in at least two different text-books that the eruption of this disease never, under any circumstances, suppurated, though we had just seen four or five cases in which the presence of pustules was indubitable. We learned, subsequently, that *materia medica* was

very much the same study, whether arranged according to the physiological action of drugs or alphabetically. We found, from the best and most expensive kind of experience, that cyclopedic works were never finished till the first portions had become somewhat out of date; and that they contained a vast amount of material which the general practitioner could not use, while stopping just short of the degree of detail which would enable them to supplant individual text-books. We also noticed that obtaining information was very much like getting a railroad pass; it either came very easily or it did not come at all; in other words, that all books had about the same scope and that a point missing from one could scarcely be found in any.

A little consideration will convince one that a bound volume can hardly represent the most recent information on any subject. A writer gets his subject well in hand, and then must bestow all his energy on the mechanical task of writing or dictating his thoughts. His leisure is fully occupied for weeks or months, during which time, he must sacrifice his actual study and experimentation to literary processes. When his manuscript is prepared, he is already somewhat behind the times. Then comes more or less delay in securing a publisher. With rare exceptions, all kinds of manuscripts are marketable, without reference to their intrinsic merit, but according to the fame of the author. The veriest drivel of a poet-laureate is eagerly sought after, while there is scarcely a master-piece of the last century which has not been rejected by publisher after publisher. The inevitable tendency is that there devolves upon the unknown author, however excellent his work, the humiliating task of hawking his production about the country at a loss of much valuable time,

while the man of eminence is tempted to put forth his writings without proper elaboration. Not a few of our readers have upon their shelves a work bearing the name of a prominent member of the profession, about which, many a critic has said that the only poor article in the collection is that emanating from the famous editor-in-chief. We do not assert that the tendencies noted invariably have their unfortunate fulfillment, but the result certainly is that almost no accepted manuscript represents the best and most recent information obtainable. After its acceptance, necessary delays in the business office, the time of type-setting, of repeated proof-reading, with the delay in transit back and forth through the mails, and in the author's office, the time of stereotyping, of running through the press, of binding, of shipping and creating a demand by advertising, also combine to postpone the appearance of the book nearly a year. Occasionally, by special effort on the part of both writer and publisher, foot-notes or an appendix is added, bringing the work nearly to the present so far as the author is concerned, but he is almost never able to incorporate the recent researches of others.

The magazine article is almost always up-to-date, and whatever value it does possess is rarely buried in a mass of allusions to facts generally understood, such as the text-book with a claim to thoroughness must include. The cream of magazine articles are found among the reprints that cost nothing, and are usually to be had without even the asking. For some time we have been in the habit of saving all reprints received, of sorting and binding them with clips into sections. It appears from this collection that the gynæcologists are most prolific of medical literature, and that the general surgeons and specialists in other departments rank on about the

same level. Surprisingly few of these reprints justify the common complaint that specialists write for the sake of the notoriety that they can gain. Occasionally we find that a man overreaches himself in his anxiety to make his name known to everyone, but, as a rule, men hesitate to scatter broadcast articles that are mediocre, or carelessly prepared, or unsound in doctrine. Reprints may be read in odds and ends of time; they are easily bound and indexed; they are fresh, if they deal with subjects outside one's particular field of practice; they usually present facts that every one should know; they lack the persiflage and repetitions of a text book; they are inferior only in lacking harmony of arrangement and completeness of conception.

We wish to suggest one more thought. The men who are doing most of the writing—we may almost say the thinking—of the medical profession, can not draw upon the vast experience of the

profession as a whole, but must inevitably generalize from inadequate data, and must use and re-use every interesting case which comes within their own limited experience. There are thousands of remarkable cases, of valuable observations on the effects of drugs, of examples of the transmission of disease, buried in the unwritten notes of the general practitioners of the country, and these ought to be reported and placed on file where they may be assimilated and their lesson learned by whoever has the patience to read current medical literature. It is false modesty for a man who bears the responsibility of human life to hesitate to describe what he has seen, or tacitly to admit that he is unable to observe accurately. "Deeds, not words," has been too literally the motto of many a physician. We need words, but words that spring from deeds and in turn give rise to deeds, rather than words that have no foundation in experience and lose themselves in pleasing echoes.

DAVID MAUL, M.D.

Dr. David W. Maul, aged sixty-four years, died Saturday, February 22, at his home in Wilmington, Delaware. He had for some time been failing in health, owing to kidney trouble.

Dr. Maul, the son of Dr. Geo. W. Maul, was born in Georgetown, Delaware. Starting with a liberal education, his character and disposition showed evidence later in life of that peculiar admixture of strength and kindliness which so often results from hardship and self-sacrifice, the portion of all upright men who passed through the late war.

During that period he was Chief Surgeon of the 2d Division of the 3d Army Corps. He enlisted as a private, afterwards becoming captain, and later regimental surgeon.

Besides being a physician, the deceased was a writer of some note. He

was a member of the State Medical, and various other societies, including the Delaware Historical Society, and, until failing health rendered it impossible, took a lively interest in all the various interests and enterprises, as well as the benevolent and charitable institutions of his city. At the time of his death he was also connected with the Society for Prevention of Cruelty to Animals and Children.

The *Philadelphia Press*, commenting upon the death of Dr. Maul, and giving it as the united legal opinion of the State, remarks that "he was one of the best witnesses that ever appeared on the stand in his State." And further, that, "Dr Maul's extended experience in the army made him a most skillful surgeon, and he has in times past appeared in the most important cases that came before the courts. He had the happy faculty

of making his testimony so clear that the jury could easily understand the points he desired to make. He illustrated his evidence with carefully prepared anatomical preparations and drawings, and his testimony was much sought after."

With the death of Dr. Maul there is a vacancy in the medical profession of Delaware which cannot but be felt. Belonging to the old school of self-reliant men, upheld by native intelligence, liberal education and carefully developed character, he occupied a position in the profession, which, unfortunately, not enough members are holding to-day.

As most of our readers are familiar with Ian MacLaren's "Doctor of the

Old School," they will understand to what we refer. He was friend, counselor, and confidant to his many and attached clients.

Though there may be, and are, many just as completely equipped, intellectually speaking, in the profession to-day as in days gone by, unfortunately the element of competition and money getting which necessarily accompanies the present status of professional life, must interfere with and dull the fine edges of the daily practice of professional life in these times.

We extend our heartiest and most cordial sympathy to his family, to whom we have been indebted for many acts of courtesy and kindness. W. H. B.

ABSTRACTS.

DANGERS OF USING MILK FROM TUBERCULOUS COWS.

When it is remembered that one-seventh of all the deaths are due to tuberculosis, and that the identity of bovine and human tuberculosis has been settled beyond question, we need not wonder that much attention has been given to the study of milk from tuberculous cows.

While it is of course possible for milk to be contaminated with the sputum or tubercular matter of consumptives, we are considering here the transmission of the germs from the animal to man through the medium of milk.

Ostertag gives the percentage of tubercular animals in 1885 at abattoir at Leipsic, 15 per cent.; at Stolp, 20.7 per cent.; Bromberg, 26.2 per cent.; while that for the Berlin abattoirs is much larger; indeed, 53.7 per cent. of the old fattened milch cows presented tubercular lesions of the bronchial and mediastinal glands. According to Rieck, of 67,077 cattle slaughtered at Leipsic during the years 1888-1891, 20.4 per cent. were found to be tubercular and about 3.6 per cent. of the tubercular animals in Saxony presented lesions of the udder.

Dr. H. C. Ernst presents evidence

from 39 veterinarians, representing 17 States, most of them reporting for one year only, which indicates that there were 549 cases of tuberculosis and 242 suspicious cases, a total of 791 among 165 herd representing about 3,000 animals, *i. e.*, 18 per cent. of positively tubercular animals, and over 8 per cent. of suspicious cases, a total of about 26 per cent.; and, according to De Schweinitz, in many cases from 50 to 70 per cent. of the dairy herds were found to be infected, and in one of these the veterinarian had reported that fully 50 per cent. of the diseased animals had tuberculosis of the udder. The English and Danish statistics also show an alarming prevalence among the dairy herds.

The possibility of the presence of tubercle bacilli in the milk of animals was pointed out first by Virchow, and by Koch as early as 1882, and subsequently the bacilli have been demonstrated by Bang, Johne, Bollinger, Ernst, Woodhead, and MacFadyean, and many others, in the milk of animals in which the udder was also the seat of the lesion, and for some time it was doubted whether the milk from a cow is virulent

unless the udder is the seat of tuberculous deposits. In the report of the royal commission on tuberculosis presented to Parliament April 23, 1895, Dr. Martin, from his experiments, finds that milk was infective only when the udder itself was the seat of tuberculous disease, and this is also the conclusion reached by Nocard.

Dr. Woodhead, in the same report, however, calls attention to the rapidity with which the udder disease may spread, and considers the very absence of any definite sign in the earlier stage as one of the greatest changes of this condition. Both Drs. Martin and Woodhead insist that no tuberculous animal of any kind should be allowed to remain in a dairy, and recommend as a preventive measure the simple expedient of putting every suspected milk over the fire and taking it off when it boils.

The experience of the royal commissioners is quite different in some respects from that of Ernst, whose preliminary work in 1889 led him to declare emphatically that the milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease, and that the virus is present whether there is disease of the udder or not. In 1893, Theobald Smith, from a number of experimental observations, finds that tubercle bacilli may be present in the milk of tuberculous cows when the udder, so far as the naked eye could tell, contained no foci of disease, and the results presented by Ernst in his recent and final report on the infectiousness of milk appear fully to justify his former conclusions, which are, moreover, supported by the investigations of Bang, May, Stein and Hirschberger, the latter being also the first to point out that the inoculation experiments are the more certain guide as to whether the milk is infectious or not, as he obtained positive results from milk of undoubted tuberculous animals, in which he was unable to demonstrate the presence of tubercle bacilli. Indeed, evidence has been furnished by Galtier that the infectious properties may also be conveyed in the butter, cheese and other milk products of tuberculous cows.

The general results of inoculation experiments would seem to indicate that

milk may prove infectious in 60 to 70 per cent. of the cases; that the infectious qualities are greatest with milk from animals with udder lesions, and next from those affected with general tuberculosis. The feeding experiments of Bang, Bollinger, Lucas, and Morro, Utz, John, Klebs, Kruckow, Ernst, Baumgarten, Fischer, and Wesener with tuberculous milk proved infectious in about 45 to 50 per cent. of the cases.

When we recall the fact that the last three observers in their feeding experiments were especially impressed with the resulting tuberculous lesions of the intestinal mucosa, mesenteric glands, and liver; when we next consider the large mortality of children under five years from primary tubercular ulceration of the intestines (Cohnheim and Aufrecht), tubercular peritonitis and *tabes mesenterica*, and the fact that the food of these children consists largely of unboiled milk, the chain of evidence seems well-nigh complete, but has been materially strengthened by a number of clinical cases.

Professor Klencke, in an excellent little work published at Leipsic in 1846, accuses cows' milk as a frequent cause of disease in children, and deeply regrets that this indispensable article of food, for which no suitable substitute can be found, should at times contain a virulent poison, not easily demonstrated except by its effects stamped upon the countenance of numerous cachectic children, and maintains that there is a positive connection between the milk of scrofulous and tuberculous cows and the frequent development of scrofula in bottle-fed children. He calls attention to the fact that stall-fed, and especially swill-fed cows are peculiarly prone to become tuberculous, and describes the condition of seven cows which he closely studied, five of which furnished an abnormal milk, and the diagnosis of a "scrofulous-tuberculous condition" was confirmed post-mortem in four of the cows.

Klencke gives the clinical history of sixteen children who had been fed with milk from these cows, and all point to tuberculosis of either the intestines, glands, skin, or bone. In three of the intestinal disorders he refers to the presence of indurated mesenteric glands.

Of the sixteen cases one died, but at the time of his report two of the children were still suffering with "intestinal blennorrhoea and scrofulous abdominal glands," and he feared that, in spite of the change of milk, these patients would perish. In the fatal case, that died from an abscess of the left breast, the autopsy revealed "a true infiltration of tubercular matter beneath the skin, which had probably acted as a foreign body and excited an exhausting suppurative process."

Unfortunately, nothing is said about the pathological conditions found elsewhere, but it must be remembered that Klencke was only endeavoring to prove the transmission of scrofula. In this connection we can hardly resist the conclusion that the difference in degree of virulence observed in the various tubercular manifestations is perhaps not always attributable to the condition of the host, but may possibly be due to an attenuated character of the tubercle bacilli. Whether or not the German habit of boiling the milk, or adding boiling water, or the action of the gastric juice modifies the virulence of the bacilli, as shown by the slower forms of tuberculosis, remains to be seen; but in the feeding experiments with raw and boiled milk of Bollinger, in 1878, and Bang in 1890, we notice a marked difference in the resulting lesions. We have not seen the full report of the royal commission on tuberculosis, but from the abstract published in the *British Medical Journal*, page 948, April 27, 1895, it would appear that Dr. Woodhead noted the effects of temperatures insufficient for its actual destruction upon the virulence of tubercular material.

By the operation of certain low temperatures he obtained a diminution in the virulence of the tuberculous material in the milk, which then became "so tardy in its operation on test animals as to simulate the slower forms of consumption seen in the human subject, or when used to feed pigs—animals having some specialties of throat structure like that of man—gave rise to chronic enlargements of the throat glands, resembling the scrofulous glands so common in children. These observations are of much interest to us, not least because they suggest the possibility of widely

prevalent forms of human tuberculosis owning an origin in milk."

Dr. Ernst's recent clinical inquiry on the transmission of bovine tuberculosis revealed the following facts: Eighteen hundred circulars were sent to physicians and veterinarians asking if they knew of any cases in which human beings had been infected with tuberculosis through the milk of cows. Among 1,013 replies from physicians 895 were negative, 8 reported cases of infection of a child by the mother, 11 reported cases of infection by cows' milk, and 16 reported suspicious cases. The veterinarians gave much more striking evidence, since among 54 replies 14 reported positive, and 9 suspicious cases.

The positive replies quoted by Dr. Ernst are not such as will be considered conclusive evidence by pathologists, and really lack scientific accuracy. While the development of *tabes mesenterica*, phthisis, tubercular meningitis, glandular affections, etc., occurring in hand-fed babies of perfectly healthy parentage points with suspicion to the milk supply, the investigation should be extended, as Klencke had done fifty years ago, whenever practicable to the animals, and with our present opportunities for bacteriological investigations, some valuable facts may thus be collected.

Johne reports a striking case in which a post-mortem examination of the cow revealed extensive tuberculous deposits. The steward of the farm was especially interested in the result of the investigation, as on account of the previous good condition of the animal the milk had been selected for his infant son. The family physician was at once notified, and reported progressive emaciation and a "pulmonary catarrh" which he had attributed to a recent attack of measles; a short time afterwards Johne received word that the boy, then 2½ years old, had succumbed to an attack of miliary cerebral tuberculosis. The case is of special interest because there was no hereditary predisposition, and the other children in the family are perfectly healthy.

Hermisdorf relates the case of a girl 14 years of age, of healthy parentage, who developed tubercular laryngitis and tuberculosis of the ileum and cæcum, which he attributed to the milk of a tu-

berculous cow. This girl was in the habit of drinking the milk while still warm.

Leonhard mentions a family in which the children contracted tuberculosis soon after being weaned. The cow was finally suspected and killed, and the diagnosis confirmed. The next child in the family remained in good health. He also mentions two cases of tubercular meningitis traced to the use of unboiled milk from a tuberculous cow. Demme reports five cases observed in the children's hospital at Berne infected by tuberculous milk. Sonntag, Meyerhoff,

Stang, Schongen, and Uffelmann report similar cases. Espstein, in his extensive experience, finds that children from consumptive parents rarely develop the disease when provided with a healthy wet nurse, and attributes the frequency of intestinal tuberculosis to the infectious qualities of the milk. Herterich relates two cases, which he attributed to the milk of a tuberculous mother. Brouardel cites a case where five out of fourteen girls living in a boarding-house became consumptive subsequently to the use of milk from a tuberculous cow.—*Public Health Reports*, Feb. 14, 1896.

AN ENGLISH DOCTOR ON THE FEELING OF THE UNITED STATES TOWARD ENGLAND.

Dr. A. Conan Doyle has made many warm friends in America, and in his fiction, so far as we are acquainted with it, there are none of those irritating innuendoes against Americans that so disfigure the writings of many British authors and serve to engender animosity. We are glad to find that Dr. Doyle has written the following letter, which recently appeared in the *London Times*:

"An Englishman who travels in the United States comes back, according to my experience, with two impressions, which are so strong that they overshadow all others. One is of the excessive kindness which is shown to individual Englishmen. The other is of the bitter feeling which appears to exist both in the press and among the public against his own country. The present ebullition is only one of those recurrent crises which have marked the whole history of the two nations. The feeling is always smouldering, and the least breath of discussion sets it in a blaze. I believe, and have long believed, that the greatest danger which can threaten our empire is the existence of this spirit of hostility in a nation which is already great and powerful, but which is destined to be far more so in the future. Our statesmen have stood too long with their faces toward the East. To discern our best hopes as well as our gravest dangers they must turn the other way.

"As to the cause of this feeling, it is not so unreasonable as Englishmen usually contend. It is the fashion among us to apportion the blame between the Irish-American and the politician who is in search of his vote. But no such superficial explanation as this can cover the fact that the Governors of thirty American States should unhesitatingly indorse a Presidential message which obviously leads straight to war. A dislike so widely spread and so fierce in its expression cannot be explained by the imported animosity of the Celtic Irishman.

"Few Englishmen could be found now to contend that we were justified in those views of taxation which brought on the first American war, or in the question of searching neutral vessels which was the main cause of the second. This war of 1812 would possibly only occupy two pages out of five hundred in an English history, but it bulks very large in an American one, and has left many bitter memories behind it. Then there was the surly attitude which England adopted toward the States after they had won their independence, the repeated frictions during the Napoleonic epoch, and the attack upon an American frigate by a British fifty-gun ship in time of peace. After the war there was the Florida dispute in the time of Andrew Jackson, the question of the Oregon line,

the settlement of the Maine and New Brunswick line, and, finally, the hostile attitude of most of our press at the time of the civil war. Since then we have had two burning questions, that of the Alabama claims, and that of the Behring Sea fisheries, culminating in this of Venezuela. The history of his country, then, as it presents itself to an American, is simply a long succession of quarrels with ourselves, and how can it be wondered at if he has now reached that chronic state of sensitiveness and suspicion which we have not outgrown ourselves in the case of the French?

"If we are to blame as a community for some at least of these unfortunate historical incidents, we are even more to blame as individuals for the widespread bitterness which is felt against us. We have never had a warm, ungrudging word of heartfelt praise for the great things which our kinsmen have done, for their unwearying industry, their virtues in peace, their doggedness in war, their unparalleled clemency when war was over. We have always fastened upon the small, rude details and overlooked the great facts behind. In our shocked contemplation of an expectoration upon the floor, we have lost sight of universal suffrage and equal education. Our travelers, from Mrs. Trollope and Dickens onward, have been surprised that the versatile hard-working men, who often combined ten trades in one to adapt themselves to the varying needs of a raw, growing community, had not the manners of Oxford or the repose of

Sussex. They could not understand that this rough vitality and overbearing energy which carried them through their task implied those complementary defects which must go with unusual virtues. Of all English travelers to the States, there was hardly one who did not make mischief with his reminiscences until, in our own days, Mr. Bryce did something to rectify the balance. And our want of charity and true insight are [is?] the more inexcusable since no one has written more charmingly of England than Washington Irving, Emerson and Holmes. Our journals and public men are in the habit now, as a rule, of alluding to America and Americans in the most friendly way, and that must in time have its effect, if recent unhappy events do not change it. We should, in my opinion, lose no opportunity of doing those little graceful acts of kindness which are the practical signs of a brotherly sentiment. Above all, I should like to see an Anglo-American Society started in London, with branches all over the empire, for the purpose of promoting good feeling, smoothing over friction, laying literature before the public, which will show them how strong are the arguments in favor of an Anglo-American alliance, and supplying the English press with the American side of the question and *vice versa*. Such an organization would, I am sure, be easily founded, and would do useful work toward that greatest of all ends, the consolidation of the English-speaking races.—*N. Y. Med. Jour.*

TREATMENT OF ECLAMPSIA GRAVIDARUM.*

Since the memorable discussion on the treatment of eclampsia which took place before the Berlin Obstetrical and Gynecological Society in January, 1892, when Dürrssen so powerfully advocated the superiority of rapid delivery by operative measures over the usual expectant plan of treatment, considerable attention has been directed to this subject, and several series of cases have been reported which tend to support

Dürrssen's views. On that occasion Dürrssen held that two questions must be answered before a rational basis for treatment can be obtained: (1.) Does eclampsia cease with the completion of labor? and (2.) does operation render the prognosis worse? In answer to the first question he cited the statistics of Lantos and Löhlein, which show that eclampsia ceases after the conclusion of labor in 69 to 80 per cent. of the cases. In answer to the second, he maintained that even the severest operations (such

**Montreal Medical Journal.*

as Cesarean section) do not make the prognosis worse, if they are done cautiously under full narcosis. He therefore advocated the speedy emptying of the uterus in cases of eclampsia occurring at the eighth month or later, as soon as the diagnosis is certain, by means of "bloody" dilatation of the cervix (multiple incisions) and forceps, or by a combination of the "bloody" with the mechanical dilatation (colpeurynter). He claimed that the early induction and rapid termination of labor will save more children than the expectant treatment by drugs, baths and dieting. In cases of eclampsia before the eighth month, he preferred the expectant method as giving the child a better chance by allowing longer time for development and growth.

In the article under review Zweifel first sketches the treatment of eclampsia from the time of Velpeau to the present day, and then reports 129 cases which have been treated in the Leipsic Clinic from April, 1887, to October, 1895. The treatment was chiefly expectant until January, 1892, but since then it has been mainly active, based upon Dührssen's plan of multiple incisions of the cervix, followed by rapid delivery. He says that Velpeau's monograph in 1835 was the first serious attempt to found a rational treatment of eclampsia upon facts and personal experience instead of theory. In addition to sinapisms, blisters, leeching, cupping and bleeding, Velpeau recommended general warm baths, the artificial induction of labor and rapid delivery. He condemned cold applications to the head (douches), restricted the use of *accouchement forcé*, preferring incisions of the os uteri and rapid dilatation with the finger, followed by version and immediate extraction. In 1841 Godemer advised rupture of the membranes to relieve uterine tension, followed by vaginal hysterectomy as being less painful and less liable to cause irritation than other methods of delivery. In 1843, Dubois advised incision and dilatation of the os. Hildebrandt in 1864, and Chailly-Honoré and Soyre in 1866, advised and practised incisions of the cervix. Halbertsma pointed out that convulsions usually cease after complete emptying of the uterus, especially if this can be done after the first fit, and recommend-

ed Cesarean section as the quickest means of accomplishing this result. Zweifel says that complete emptying of the uterus is not easy when severe eclampsia has begun, but by the use of hydrostatic dilators (colpeurynter, or Champetier-de-Ribes' bag) delivery may generally be accomplished in one hour. He condemns Cesarean section except in special cases, and claims that it is not the quickest means of emptying the uterus, since considerable time is lost in preparing for the operation. Nor is it as safe, as Dührssen's plan of multiple incision, for it exposes the patient to many additional risks. The only case in which he performed Cesarean section was one of markedly contracted pelvis, and there were 30 fits after the conclusion of the operation. He holds that eclampsia is not *per se* an indication for Cesarean section. Of his 129 cases, convulsions occurred first *post-partum* in 32. Of the 97 cases in which eclampsia occurred *ante-partum*, 5 were cases of twins and 1 of triplets. Of 103 children, 34 died, giving a mortality of 33 per cent.; 50 were full term, 10 of whom died; 53 were premature, 24 of whom died. The maternal mortality was: under the expectant plan of treatment, 32.6 per cent (16 out of 49 cases); under the active plan, 15 per cent. (12 out of 80 cases). The mortality among primiparæ was 16.6 per cent., of multiparæ 5.5 per cent. Tarnier's milk treatment was employed whenever indicated by the presence of nephritis; but he has not as much confidence in it as the French obstetricians seem to have, and maintains that we should not delay the induction of labor in cases of nephritis. Blood letting for the relief of headache, a favorite treatment in earlier days, has not been found necessary in the Leipsic clinic, and morphia has not been used for three and a half years, except for the relief of great restlessness. Jabourandi and pilocarpine increase salivary secretion and tend to produce pulmonary oedema. He strongly recommends vegetable diet, and has had good results from irrigation of the stomach and the administration of dilute vegetable acids¹. He prefers citric and tartaric acids, in-

¹ Citric, tartaric and acetic acids are given in solution as follows:

Acid citric g.	2.5	Acid tartaric g.	2.5	Acid acet. qil.	g. 2.5
Aq.	-500.	Syrup	-30.	Syrup	q.s.
		Aq.	-300.	Aq.	-200.

roduced by means of a stomach tube if the patient is unable to swallow. Vegetable acids dissolve albuminoid matters and act as diuretics when combined with sodium and taken up by the blood. Zweifel's conclusions may be summarized as follows: When convulsions occur during the progress of labor, deliver as speedily as possible. If the external os is undilated but the cervix is soft and dilated, distensible rubber dilators (colpeurynter, Barnes' or Champetier-de-Ribes' bags) may suffice to ensure dilatation, aided perhaps by small incisions of the os which bleed slightly. If, however, the cervix is not obliterated and a hard thick resisting ring is present, through which only one finger can be passed, the colpeurynter should first be employed, and if incisions are required they must be deeper and longer. Severe bleeding will follow, but it may be controlled by clamping and then padding the wounds firmly with pledgets

of sterilized cotton and tamponing the uterus with sterilized gauze. Since we never know how much blood will be lost during delivery, it is better to reserve bloodletting for the relief of convulsions recurring after the conclusion of labor. As much as 500 grams may be taken if the arterial tension is high. While the patient is narcotized and unconscious, nothing should be given her to swallow, but fluids may be introduced into the stomach by means of a stomach-tube. Lavage is useful when there is digestive disturbance. A weak solution of citric or tartaric acid may be introduced with advantage when the stomach is empty. Chloroform and ether may be used for anæsthesia; Zweifel does not agree with some American writers who consider that ether is contra-indicated in cases of nephritis. The most rigid antisepsis is essential throughout the whole course of the treatment, as sepsis may cause a continuance of the convulsions.

WOMAN'S PUBLIC HEALTH WORK.

Among the various fields in which woman's help is peculiarly appropriate and already productive of marked results, none outranks that of the public health. One of the first theatres of public life opened to her was that of education, her fitness for the school-board and the school-room having been acknowledged almost so soon as claimed. Her success in this field has quite recently led to pressing calls for her assistance in a department of more vital necessity, education being of no value without health.

Special attention is called to "The Woman's Health Protective Association" of Philadelphia.

The first annual report was made in 1895, and the objects of the association are very clearly stated in an address "To the Women of Philadelphia:"

The Woman's Health Protective Association of Philadelphia was founded in 1893, as a committee of the New Century Club. It originated in the growing sense of responsibilities of women, not only as housekeepers, but as citizens. In the administration of sanitary laws

women are personally concerned, so much of the routine work falling directly under their supervision, being within their department in the conduct of affairs. The men make these laws, award the contracts, pay the bills; the execution of the contract rests with the contractor; the supervision of the work with the women. With each subject upon which committees in this Association have been formed, the members are immediately and directly concerned. In the enforcement of the law in relation to the flagging of houses where contagious diseases exist, the woman is vitally interested as a mother and nurse and the protector of the family health. If the garbage and ashes are not properly collected, it is the housekeeper who knows of the neglect and realizes the serious consequences. The woman is not only the principal patron of the trolley car, and therefore most interested in its conduct, but to the mother it is that the father commits the care of the children who play about the house door and gaily dare the dangers of the street. The purity of the drinking water, its

cleansing for washing, fall directly under the supervision of the housekeeper, and whatever is done for the health of the family by filtering or boiling is by her direction. Of the "sweating system" women are the principal victims.

And so the story goes—in the house-keeping of the city it is the housekeepers who are vitally and personally concerned, but heretofore they have submitted to the consequences of evasions of law, to the cupidity of paid contractors, to the inconvenience and trouble resulting from the careless administration of affairs by the men who are necessarily obliged to depend upon hearsay evidence.

The Health Protective Association has, therefore, become a necessity. It is not an aggressive organization, it does not ask for new laws nor always for new methods, but it does ask that the old laws, which are generally admirably planned, shall be carried out, and the health of the city shall be, by a wise administration, protected from the carelessness and greed of those who consider the execution of contracts a matter of small importance or of personal aggrandizement. This, in short, is the object of the Woman's Health Protective Association. It aims to secure for the city a wise, honest, and faithful administration of the laws which bear upon sanitary and hygienic conditions.

It appeals directly to each woman citizen of Philadelphia for her assistance; it asks her to become a member, and to help, by counsel and personal interest, in this work, so vital, so important, and so pressing, and which, in view of the many evils we unnecessarily suffer, has become a personal duty, demanding personal attention from each member of the community.

The Association is divided into committees upon Contagious Diseases, Water Supply, Street Cleaning and Collection of Garbage and Ashes, Sweating System, Trolleys, and Literature.

These committees have each done efficient work, fruitful in results, and so recognized by the people.

One such result is noteworthy, illustrating a fact well known to practical men that the great public wants to be warned as to the presence of communicable diseases. It seems that there was

some carelessness, and perhaps some partiality, in flagging or placarding houses as by law required. The Philadelphia Board of Health was requested to see that this oversight was remedied. At first it took exception to the Association's attitude, announcing the fact that it used its own judgment in ordering the placarding. The Association insisted that no partiality should be shown, and carried its point.

This committee was very active in looking after other important topics coming under its purview, such as the contagiousness of consumption, the milk supply as connected therewith; also the condition of large cattle farms, the need of a pay hospital for contagious diseases, and vaccination.

The Water Supply Committee did a work which attracted great attention, and was nobly aided by the public press, by scientific bodies and influential citizens.

The report of the Street Cleaning, Garbage and Ashes Committee is significant, showing the keenest interest in the minutest details of municipal housekeeping. An honest pride is exhibited in the endeavor to have Philadelphia worthy of its ancient fame for cleanliness. "With every woman an inspector we feel sure of success."

The various committee reports show good work done in almost every department of sanitation.

The organization is a striking manifestation of public spirit and Christian humanity, which demonstrates the true remedy for the admitted imperfections of American municipal management, is woman's unselfish persistent devotion rather than ephemeral political reform leagues.

Hard Luck.

The conversation had turned on appendicitis, and a gentleman remarked that Mr. Johnson had had his vermiform appendix removed. A deafish old lady present pricked up her ears at this, and asked, "What was that you said?" Raising his voice the gentleman answered, "I said that Mr. Johnson had his vermiform appendix removed." Very sympathetically, and in loud tones, the old lady replied, "Oh, what a pity; and he wanted children so badly, too!"

SOCIETY REPORTS.

ALLEGHENY COUNTY MEDICAL SOCIETY.

February 18, 1896.

Dr. E. G. Mattson read a paper,

"THE MALARIAL PARASITES."

[See page 389.]

DISCUSSION.

DR. J. M. BATTEN: I have had some experience with malarial fever. I do not regard the negro race as susceptible as the white race. I have never seen a case of malarial fever among the negroes. I have been on a vessel in which there were two hundred white men, and perhaps twenty colored men. The white men would be attacked by the disease, but never, within my observation, a single colored person. I have attended cases of malarial fever along the sounds and rivers of North Carolina, on the Ohio River, at Cairo, and along the Mississippi River. Had the colored race been at all susceptible, I would most certainly have seen cases among them. There is another observation which I made in regard to malarial fever, or rather yellow fever, and that is that those on board a vessel might go ashore every day without very much danger of being attacked by the disease; but those who lived in Newbern were very susceptible. The negroes in Newbern, at the time of that dreadful epidemic there in 1864, were not attacked by the fever. I noticed also that the disease seemed to be much more malignant among those who slept on the first floor of dwellings, than among those who occupied the upper stories. Another thing which I observed was the fact that the medicines administered seemed to have but little effect until the vessel was out on the ocean. After remaining there for a week the medicines seemed to take effect; but quinine would not prevent the regular chill when they were filled with malaria. We always used water from the boilers. We took the boiled water out of the boilers of the vessel and put it into a half hoghead for our daily use.

DR. W. H. DALY: I have listened to the reading of the paper with a great deal of profit and gratification. It was in 1880 that Laveran gave to the profession the results of his important investigations, among them being the description of the plasmodium malariae. It received but slight attention at the time, and during all these years since it has aroused but comparatively little interest, when one considers the importance of the discovery. A few of the more scientific minds, it is fortunately true, have prosecuted confirmatory research

along these same lines; but so far as the general mass of medical men are concerned, the teachings have been allowed to rest without the respect and consideration due to such an eminent scientific discovery. On the other hand, Koch's discoveries, given to the profession in 1882, were at once accepted as genuine coin, and became current throughout the entire medical world. I believe it is stated on good authority that about one-half, more or less, of all deaths in the human race are due to paludism in some form, viz., the malarial organisms or to some of their concomitants or sequelae, while but one-seventh of all deaths are due to tuberculosis. Do not these figures prove the unwisdom of the neglect on the part of the profession of this question? We accept and applaud that which is of the lesser value, while we set aside or nearly ignore that which is worthy and useful in our endeavors to lessen the death-rate of one-half the mortality of the human race. As many of you know, I have been engaged during the past two years in a somewhat active discussion in the columns of the *New York Medical Record* and other journals on this very subject. These discussions have been participated in by gentlemen from all over the United States. I am pleased to say that the results of my investigations, showing the plasmodium enters the human blood through the water and food taken by the individual, and not by means of the air inspired, the data for which have been gathered together during a period of from twenty to twenty-five years, seem conclusive proof of my position to the untrammelled and thoughtful mind, and have attracted a considerable amount of attention, mostly of a confirmatory character. I do not think there is any subject that is more worthy of the scientific medical mind to-day than this one of paludism and the plasmodium malariae. It is a beautiful study, and fraught with possibilities for great good to the health, prosperity, and happiness of the human race. We sometimes—indeed too often—take hold of medical folly as presented to us, but how deplorably have we neglected this fruitful field of useful research. Take, for example, Bourgeon's treatment of consumption, which many of us eagerly took up a few years ago, and found to be worthless, and of which we are now heartily ashamed. Take Koch's discoveries, and, beautiful as they are, what have they really done so far except in preventive medicine, their most inviting field? I have taken the

ground, and have been censured for it, for saying that so far as the curing of consumption is concerned, or even the shortening or amelioration of the disease, Koch's discoveries so far have proved of little practical value. I have often been filled with regret and sorrow, as I have worked in my consumptive wards of the Western Pennsylvania Hospital and realized what little additional power we possess in the treatment of the cases of tuberculosis, and what little power of combating this dreadful disease we have gained by the discoveries of Koch. Now do not misunderstand me. I believe that Koch's researches have been and can be made a greater benefit to preventive and diagnostic medicine concerning tuberculosis; but so far, it is chiefly in the way of preventive medicine alone, and not from a curative point.

Dr. Matson has touched upon one subject in his paper which is worthy of our best thought, and that is the fact that in the going of an infected person from a fever district to one not inoculated with the plasmodium, there is a liability from dejecta or hemorrhage, or from the interment of the dead from malaria, of seeding the germ in the fresh territory, and thus creating a new focus from which the disease may exist and spread.

There is another thought that comes into my mind at this moment. I will say that so far as my observations go, and they have been considerable, both as to extent of territory and time, it remains yet to be proven to my satisfaction that the plasmodium malarie cannot and does not find a nidus and vehicle in certain ground vegetables and fruits, such as celery, melons, etc. It remains also to be proven that the plasmodium malarie may not pass through the blood of the cow, into her milk, and thence into the alimentary tract and blood of human beings.

Another factor and of chief importance in the discussion is the medium through which the infection is carried into the blood. I am pleased to be able to say that the preponderance, or I may say the consensus of opinion, as expressed in the many letters I have received touching upon this subject, is that it is not, necessarily, bad air. As you know, the word malaria comes from an Italian word meaning bad air. The term, therefore, is very misleading. It obscures the fear that we should feel for the real and true means by which we receive the infection of the plasmodium. That is to say, I believe that the medium of infection is not bad air, but bad water, therefore it is not malaria but mal aqua, or bad water by which it should be designated briefly. The germ is not taken into the system by means of the air we breathe, but chiefly, if not entirely, by means of the water we drink and the food we eat. I made this assertion several years ago in a paper which I read before the American Climatological Association and found myself almost isolated in my opinions. I am no longer so, hence I can see no reason why I should retract it. I am open to conviction,

however, and will retract when it has been proven that the vehicle of transmission is not food or water, or both, but air alone.

While in Europe four months last summer and autumn, I spent considerable of the time in Italy, a good deal of it in Rome. It was my first visit, and I must confess that my anticipations concerning Rome and its environs, the dreaded Campagna, Pontine Marshes, etc., received a severe jolt. I think we all make certain mental pictures to ourselves of the countries about which we read and hear, but when we visit them the reality often either surprises, changes our former impressions, or disappoints us. I found the surface of the Campagna a very arid plain lying between the mountains, and as dry as the floor of this room. I spent many of my days, and some of my nights, walking through and about it, and I slept upon it. The observations which I made during this time tend to confirm observations made elsewhere, from Manitoba to Yucatan, Mexico, the South American States and other countries, that the plasmodium malarie exists in the land-water and not necessarily in the air we breathe; they all confirmed my belief that the plasmodium malarie is taken into the system by means of the land-water which the people of the Campagna chiefly drink, and their generally unclean habits of life add greatly to their dangers from the same source. I mean the water that is taken from the surface of the earth above certain strata, say from earth surface to a depth of twenty feet, more or less, and above such sub-strata as are proven to be inhospitable to the life of the plasmodium malarie.

Let us bear in mind that we need not fear to breathe the air about, or sleep in the region of the swamp, if care is taken not to drink the surface, or land-water from about it.

Now, with regard to the unity or duality or plurality of the plasmodium. I was pleased to hear Dr. Matson quote authority to the effect that the limit to its unity is doubtful. There is more than one plasmodium malarie. Nor are the organisms confined to swampy districts, alone.

Certain high countries in South America are centers for this disease, and there are many low and swampy localities where malarial fever is rare, such as Tahiti, Australia, and New Caledonia. A low country simply by virtue of its lack of elevation, is not, necessarily, a malarial one; neither is an elevated district, therefore, necessarily free from malaria, and, as Dr. Matson has said, the plasmodium may be transplanted to a country in which it had never before been known to exist by means of an individual infected with the organism, acting as the efficient vehicle.

DR. C. C. HERSMAN:—I wish to say just a word or two in mild criticism of what the last speaker has just said in regard to malaria in some of the Southern States. I wish to refer to some persons who went to Florida a few years ago. They lived there almost a year and did not show a single symptom of

malaria. They went out duck hunting on some of the lakes and marshes; their boat ran aground, and they had to get out into the water and wade ashore, pulling the boat after them. In less than a week some of the party were taken down with malaria, in a very severe form, and had to take heroic treatment in order to be able to get out again. In speaking to a member of this party, I was informed that many go to Florida and live there for many years without any symptoms of malaria until they go out on the marshes or in the swamps, and then they are generally attacked within a very few days. I have had very little experience with malaria since my graduation in medicine, but I saw a good deal of it during my college days. I saw a great number of cases in the Baltimore City Hospital which came from the Eastern shores of Maryland. Most of them had the enlarged liver and spleen characteristic of malaria of the chronic form. Some of the spleens were so much enlarged that they seemed to take up the greater portion of the right side. I have seen the spleen so much enlarged that it seemed dangerous to try to outline it for fear the manipulation might rupture it. Many of these patients were very much jaundiced. I do not know, of course, if Dr. Daly's theory as regards the medium of transmission of the plasmodium is the correct one or not, but in view of the cases to which I have referred, I do not think that is supported by the facts.

DR. ADOLPH KENIG:—The value of the discovery of the plasmodium malarie is very much like the value of the discovery of the bacillus tuberculosis, that is, it is not of so much value in the treatment of disease, but in the cases of the bacillus tuberculosis, at least, in the direction of preventive measures. In malaria, its chief value is as a means of diagnosis. If there is any disease which we have been sure of treating successfully, in the past, that disease is malarial fever, and the medicinal agent is quinine. That remedy is very generally accepted as a specific for that disease. The knowledge that the disease is produced by a peculiar organism, does not aid us in the treatment. It will, however, prevent errors of diagnosis and in death reports. Dr. Osler has recently made investigations in some of the eastern cities, notably Brooklyn, where he found an enormous number of cases reported to the bureau of health as having died of malaria; but when he continued his inquiries, he failed to find that a single death from malaria had occurred in a hospital, where, it is but just to expect, diagnoses are better made. By means of the plasmodium malarie we can make a positive diagnosis so far as malaria is concerned.

With regard to the medium of transmission of the plasmodium, I do not think this can be absolutely determined until we are able to find the protozoa outside of the human body. The theory, which seems most probable, is that the plasmodium assumes some other form outside of the body, but what form it is,

we must discover before we can ascertain positively the means by which it gains entrance to the human body. It seems to me, when we take into consideration the experience of such a large number of intelligent observers in tropical countries, that possibly the contagion may be due to the water supply. On the other hand when we recall the amount of evaporation, the amount of moisture in the air, the density of the fogs which arise, it seems to me that we are not justified in excluding air-infection, especially in the face of much testimony from seemingly competent observers.

DR. WOODBRIDGE, of Cleveland:—I hardly feel prepared to say anything on the subject presented this evening, unless it be to compliment the reader on his excellent paper. The discovery of Laveran, in my humble opinion, is one of the greatest discoveries which have been made in medicine. It has done more to simplify the study of the specialty which I have in hand, than all the other discoveries of the age. Perhaps I am assuming too much when I take it for granted that the members of this society know about the special work in which I am engaged, and I may state that it is the treatment of typhoid fever. It has been one of the most common criticisms of my work to say that many of my cases have not been typhoid fever, but some form of malarial disease. This criticism is most unjust because in my work I have always endeavored to exclude the possibility of a mistake in this direction, and that possibility can always be excluded by means of Laveran's plasmodium malarie. I am sorry the reader of the paper did not take up this point: an absolute differential diagnosis between malaria and typhoid fever can always be made if we examine the blood. I therefore say that this discovery of Laveran is a most important one because it enables us to definitely diagnose our cases and distinguish between malarial fevers and typhoid fever.

DR. W. H. DALY:—The low-lying districts of Virginia afford a fruitful field for the study of this subject. The district around Smithfield, in the Isle of Wight County, Virginia, for instance, affords somewhat the following history: A long, hot and very dry spell in summer toward autumn is followed by a short season, lasting a day or two, of very copious rains. This brief rainy season is followed in its turn by another very hot spell. These rains fill the surface wells—wells which are only from five to ten or twelve feet in depth. During the dry season the wells had become low in water, and, therefore, when the rains came, the water which filled them came from the surface, or land drainage—so-called land-water. Of course the inhabitants drink the water from these wells, and shortly an outbreak of malarial fever would develop. This can only be explained by the hypothesis that the plasmodium malarie is freshly vivified and filtered through the earth, contaminating the well-water, and thus obtaining entrance to the

human system. I do not think that the cases reported by Dr. Hersman are, as he thinks, antagonistic to my statements; but rather, on the contrary, support them. The men he mentions were free from malaria until they left the land and went out on the marshes to hunt ducks. It is not proven that they did not also drink of the clean and attractive looking, but dangerous, water of the marshes. The probabilities are greatly in favor of their having done so, with the resultant malarial fever, and since he has not shown that they did not do so, it is only fair to presume that they did, and I think these cases support my observations rather than tend to disprove them.

DR. J. D. THOMAS:—I do not know much about fever and ague from personal observation. I never lived anywhere but in Pittsburgh. I can, however, relate an instance which seems to have a bearing on the subject under discussion. About ten years ago a family with a number of children resided near the corner of Thirteenth and Sarah streets. Among the children were two boys of about the ages of ten and fourteen, respectively. I was called to see these two boys and found them with a temperature of 104, with a history of a chill but no previous illness. I was not able at that time to make a correct diagnosis. When I called the next morning, I found that a free perspiration had been followed by a lessening of temperature, which was normal in both cases. I did not make any arrangement to go back, as I did not consider another visit necessary. I thought the trouble was some ephemeral condition such as we sometimes meet. I was sent for again the following day and found the temperature again 104. The next day I made another visit and found both boys apparently well. The next day when I called I found pronounced symptoms of fever, and, as the Yankee said, I "caught on." In other words, I had two as typical cases of malarial fever as you would see in Florida, or anywhere else. Now those boys must have contracted the disease in that locality, because they never lived anywhere else. It was in a part of the city in which we do not meet malaria. In fact we never did have much malaria in Pittsburgh, the majority of cases being confined to the lower part of Allegheny. Malaria in Pittsburgh is an exotic. Now the question arises, how did those boys get the fever? They had always lived in one locality. No one else in the neighborhood had been attacked. If the water-borne theory is correct, it will not explain the origin of these cases. By the side of the house in which these boys lived was a large board yard. Just before the attack this board yard had been piled full of water-soaked boards taken immediately from the river in their wet condition. This possibly may be the solution. The two cases were typical and there was no doubt whatever about the diagnosis. The cases yielded readily to the quinine treatment. If the germs were received from this wet and green lumber then they were wafted on the air—air-borne.

DR. J. C. LANGE:—Mr. President and gentlemen, there are three well-known facts in connection with this subject of malaria, as observed in the five large fever areas of America. The first is that the area must be moist; the second is that there must be a continuous temperature of at least sixty degrees for at least sixty consecutive days; the third factor is a low elevation. There are other things which are also of interest when considering this subject. It is well-known among the inhabitants of these areas that those who keep out of the fogs of the morning and evening, and confine themselves to the houses, particularly to the upper floors of the dwellings, escape; while those exposed to the fogs, or those who occupy the lower floors, were attacked. It is well-known that drainage, cultivation and paving banishes malaria. For instance, in New York City the area above Fiftieth Street was considered malarial until it was paved, and the same fact is true above Fiftieth Street in Pittsburgh. The paving of these districts resulting in the disappearance of malarial fever. Now whether these factors of which I have spoken, give rise to the production of the germ *per se*, or to some unknown form of it, I understand from Dr. Matson, is not as yet determined.

Dr. Matson has said that the protozoa in the blood of persons suffering from different forms of malaria are also different. If this be true, it would be interesting to know whether a case of intermittent fever, when it becomes remittent, or a remittent fever, when it becomes intermittent, presents changes in form of the plasmodium. It is often found that a remittent, if it be removed from a malarious district, and be untreated, becomes an intermittent in about six weeks, and also that an intermittent untreated, and continuing in a malarial area, becomes remittent, a very decidedly more grave form of disease.

DR. MATSON, in closing the discussion, said:—I do not wish to take up very much time in reviewing the remarks which have been made upon my paper. The supposed immunity of the colored race has been spoken of. I do not think that the negro is immune. This has been proved by the examination of the spleen of negroes living in tropical countries. While he may be exempt from acute attacks, nevertheless, the evidence of chronic disease can be very easily discovered. I can give but little information in regard to recurring attacks of malaria occurring several years after the initial attacks in persons who have long since removed from the malarious districts. My personal experience has been very limited. There are numerous cases of this kind on record. Persons have contracted the disease in Africa, and suffered recurring attacks years after their return to Europe, and the plasmodium has been found still to exist in their blood.

I think the water-borne theory of Dr. Daly opens up a very wide field for discussion, too wide to be taken up this evening.

PERISCOPE.

SURGERY.

Successful Operation.

A. F. BAKER, D. D.

"The Lord is in His Holy Temple—
Let all the earth keep silence before him!"

"A cancerous tumor was removed from the right side of the neck of Bro. M. W. Lowrey, of Odessa, Mo., by Dr. W. H. Mayfield, at the Missouri Baptist Sanitarium, Tuesday of last week at 11 o'clock. It was a dangerous but most successful operation. It was undertaken with fear and trembling, and as we progressed some fears of a grave character were excited into being. But under the blessing of God he is up and walking about this Thursday. How is it that such beautiful results follow the surgeon's knife at the Missouri Baptist Sanitarium? Wherein does the secret of success attach? Not solely to the skill of Dr. Mayfield as a surgeon, but mainly to the fact that God is with him, that he always looks right up to God for His direction.

Indeed it is beautiful to look in upon them—he and his associates—as he is about to apply the knife to one of his brethren, aye, to any one. All heads are bowed and his voice is heard in tender, earnest, pleading tones, for God's help and blessing. Evidently God is with this man. It is safe therefore to be in his hands.

It will not be out of place for me to say that Monday and Tuesday, from 11 A. M. to 12 M., a company of brethren were gathered at the home of Bro. Lowrey and were in prayer to God for His blessing on Dr. Mayfield while performing the operation.

I am glad to say that I witnessed this operation. And God's blessing is upon our Sanitarium. Why not? when everything is laid and prosecuted in prayer.

May I be permitted to speak of just two other things. First, the needs of the Sanitarium; and first, it needs five hundred thousand dollars to put up buildings in the next five years; and second, it needs to be brought home to and laid on the hearts of the medical profession throughout the State.

Every doctor should in some way be made to feel that it is for he and his patients. For him to enjoy a part of its legitimate profits; for him to help bring it to its highest possible plane of success.

May God show us the way to lay this great Institution on their hearts and then we will—in my judgment—be in the way to get all the money needed and all the patients we can possibly accommodate."

* * * * *

The above editorial we take from the *Central Baptist*, which we presume to be a theo-

logico-medical journal from the tenor of its discourse. We publish this more as a curiosity, although it would be a reflection upon the intelligence of our readers to offer any apology for its insertion.

We have nothing to say against the "beautiful scene" described of the doctor lowing bovinely as well as divinely, in anguished groans for help from above, over the anaesthetized victim—for such help is sadly needed, but if we were on the table we should like to have the praying part of the operation postponed until the scientific methods were exhausted. We are inclined to believe that the good Lord, if He is bothering Himself about these surgical operations at all, would prefer that the surgeon would just go ahead and do his work, and leave the praying business to those who are paid for it. It would give Him a great deal less trouble than to have to attend to the appurtenances of the operating-room, as well as the convalescence of the patient.

But the milk in the cocoanut is the \$500,000.00 collection! That's a big bid for a praying apparatus. We are inclined to believe that the Lord will get "kind o' jealous" of "spendin' so orfel much" on the side issues of surgery, when "they's lots o' churches ez hain't been built ez yet." Pray on brethren, but for the Lord's sake don't smother your surgical failures under the shadow of angelic wings—don't do it, or "the bad man 'll ketch yer, ef yer don't watch out."—*St. Louis Lancet Clinique*.

THE introduction of such drugs as chloroform and ether, and their adoption as a means of rendering the patient insentient and passive during the performance of even the most complicated operations have added one more to the grave responsibilities which surround the medical practitioner of to-day. That such responsibilities are borne more easily by some than others, is to be expected. The duties which a medical man undertakes, and for which he is answerable to the law, are not always very clear from their legal aspect, and the legal responsibilities of the moment may vary according to the circumstances of the case. There are, however, certain broad principles underlying all such cases, whether they are emergencies or occur in the routine lines of daily practice, and it may be useful to consider these in this place.

The person who undertakes the control of the anæsthetic is responsible for the safety of the patient. It has been held by persons of great weight in the profession that the real person who bears the burden of the responsibility is the surgeon who operates, and this undoubtedly is a correct theory as far as it goes. If a surgeon commits his patient to an unskilled chloroformist, knowing him to be so, any loss sustained through the neglect or

ignorance of the anæsthetist would be in part due to the surgeon, and the obloquy of permitting such an inexperienced individual to approach his patient would undoubtedly belong solely to him. The patient, as a rule, looks to the surgeon to so arrange that the operation shall be carried out in all its details as well and as safely as knowledge and skill can effect. But the responsibility of the actual conduct of the administration of the anæsthetic must in every case rest with the person whose allotted task it is to devote himself to it. The surgeon may be highly reprehensible if he permits a novice to undertake the administration of ether or chloroform, but the person giving the drug cannot be screened from his act by the surgeon. This clear statement of fact underlies the first canon of practice. The person who gives an anæsthetic, unless he be a student who does it under the eye of his teacher, who then assumes the responsibility, must always be a duly qualified medical practitioner. It may be urged that many ward orderlies of nurses are far more experienced than newly qualified men; but even were this so, it is no valid reason for permitting unqualified persons to undertake the functions of medical practitioners; and this leads us to the second canon, which insists that only those should be permitted to give chloroform or ether who have adequate experience in the use of these potent agents. The familiarity which druggists possess with herbs qualifies them in no respect to apply them to the treatment of disease, and even less would a nurse, however many times she may see an operation performed or chloroform administered, be competent in the eyes of the law or of the profession to undertake the one or administer the other. At one time the rule of thumb was dominant, but fortunately more exact methods at present prevail. The Buddhist praying machine and the heedless drenching of patients with anæsthetics by irresponsible medical novitiates are alike disbelieved in by the thoughtful in such matters. The splendid works of Simpson, of Snow, of Lister, of Clover, of Lawrie, and many others have driven home the lesson that safety in anæsthesia means accurate knowledge, and its stringent application to the methods adopted in giving an anæsthetic. The average medical man has nowadays received a training at his hospital in anæsthetizing, and hence there can seldom, if ever, be a necessity for calling upon an unqualified person to give chloroform. When such a step is taken it can only be done at the risk of the individual who resorts to this most dangerous development and of the unqualified person who with his eyes open attempts to perform one of the most anxious and responsible duties falling within the province of a medical man. We are informed that in more than one small hospital it is the custom to entrust the anæsthetic to a nurse. Such a practice can, we admit, only be justified by most exceptional exigencies. The surgeon should give undivided attention

to the operation or the anæsthetic, for nothing short of this can be sufficient for the patient's safety. No one can with safety supervise a person giving an anæsthetic and perform an operation.

More than one action for damage has been brought against medical men who have lost patients under chloroform, and in such cases the only possible defence can be that everything was done for the unhappy patient which experience and skill could effect. Thus the fact must not be blinked at, that both from the point of view of medical ethics—which demands that one medical man shall, when he needs professional assistance, call to his aid the services of a qualified fellow practitioner—and from the purely legal standpoint the responsibility of giving an anæsthetic should be borne wholly and solely by a registered medical man who is competent to select his anæsthetic and to administer it in the best possible way. Certain it is that anyone who wittingly violates these rules puts himself outside the pale of professional and legal right.—*London Lancet.*

NEWS AND MISCELLANY.

Big Words.

It is amusing and yet vexatious to see a worthy medical gentleman, whose ordinary conversation is in a simple and good style, suddenly swell up when he writes a medical article. He changes his whole dialect and fills his pages with a jangle of harsh technical terms, not one-third of which are necessary to express his meaning. He tries to be solemn and imposing. For instance, a physician recently devised a new instrument, and wrote it up for a medical journal under this title: "A New Apparatus for the Armamentarium of the Clinician," by which heading he doubtless hopes to make the fame of his invention "go thundering down the ages," as Guiteau said. Another writer wanted to say that cancer is an unnatural growth of epithelium. He took a big breath and spouted the following: "Carcinoma arises from any subepithelia proliferation by which epithelial cells are isolated and made to grow abnormally." Now, then, you know all about cancer. A writer on insanity illuminates the subject as follows: "The prodromic delirium is a quasi-paranoiac psychosis in a degenerate subject." A psychosis of exhaustion being practically a condition of syncope." The following is an effort to say that certain microbes produce the poison of erysipelas: "The streptococcus erysipelatosus proliferating in the interspaces of the connective tissue is the etiologic factor in the secretion of the erysipelatosus toxins." A large cancer of the liver was found at a post-mortem examination and reported about as follows: "A colossal carcinomatous degeneration" of the hepatic mechanism." Still, the man of big swelling words is not always up in the clouds. If called to a case of accident, he examines

the injury, and may inform the family in quite a simple and dignified manner that their father was thrown sidewise from his carriage, breaking his leg and putting his ankle out of joint, but if he writes out the case for his medical journal, he gets up straightway on his stilts and says: "The patient was projected transversely from his vehicle, fracturing the tibia and fibula and luxating the tibiotarsal articulation." Your man of solemn speech is peculiar. He does not keep a set of instruments—not he—he has an armamentarium. His catheters never have a hole or an eye in them, but always a fenestra. In gunshot injuries, a bullet never makes a hole in his patient, but only a perforation. He does not disinfect his armamentarium by boiling, but by submerging it in water elevated to the temperature of ebullition. He never distinguishes one disease from another, but always differentiates or diagnosticates them. His patient's mouth is an oral cavity. His jaw is a maxilla. His brain is a cerebrum, his hip-joint is a coxo-femoral articulation. If his eyelids are adherent, it is a case of ankylo-syம்பharon. If he discovers wrinkles on the skin, they are corrugations or else rugosities. He never sees any bleeding, but only hemorrhage or sanguineous effusion. He does not examine a limb by touch or by handling—he palpates or manipulates it. If he finds it hopelessly diseased he does not cut it off—that is undignified. He gets out his armamentarium and amputates it.—*Address by Dr. Edmund Andrews, Chicago Medical College.*

Cleaning Rusty Instruments.

Broder, in the *Journal of the British Dental Association*, gives a good method of cleaning rusty instruments. Put a saturated solution of chloride of tin in distilled water in a suitable vessel, immerse the rusty instruments, and allow them to remain over night. Rinse in running water and rub dry with chamois.

A Case of Oyster Poisoning.

Cases of poisoning from the use of oysters are becoming exceedingly common. The *British Medical Journal* for January 4, reports a case of wholesale poisoning, in which the persons who attended a public ball, nearly five hundred in number, were exposed to infection with typhoid fever through the use of oysters. In quite a number of the cases the illness was very clearly typhoid fever. Investigation showed that the oysters, which were furnished by a Glasgow merchant, were obtained from a bay in Holland, the water of which was polluted with sewage. The investigation of the case has not clearly established the connection of the oysters with the enteric fever, but the bacteriological examination made showed numerous kinds and great multitudes of microbes, and other investigations have traced similar outbreaks to the oyster, by the disclosure, either in the animal itself or its juice, of the specific microbes of typhoid fever.

Retribution.

In every life each deed, each word, each thought,
Bears ever fruitful harvest of its kind,
Its nature stamped upon the heart and mind,
Ever remains with good or evil fraught.
Man's soul is but the sum of life below,
We are just what we daily, hourly live,
Nor may we other recompense receive
But reproduction of the seed we sow.
Who soweth to the flesh, of flesh shall reap
Corruption—he who to the spirit sows
In everlasting life his soul shall keep—
For by its fruit the tree its nature shows,
Man makes eternal character in time,
Dies as he lives degraded or sublime!

—THOMAS OSMOND SUMMERS.

Wise Words From a Wise Man.

Said the late Dr. Goodell, who was not only a good physician but a good man: "I dare any political economist to show me one expedient whereby conception can be avoided. I challenge him to name a single preventive which will not do damage either to good health or good morals. Even natural sterility is a curse. Show me a home without children, and ten to one you show me an abode dreary in its loneliness, disturbed by jealousy or estrangement, distasteful from wayward caprice or from unlovable eccentricity."

Roentgen's Rays.

At a meeting of the College of Physicians at Philadelphia, held March 4th, Professor Magie, of Princeton, with the assistance of Drs. Davis and Keen, demonstrated the Roentgen rays, and an interesting discussion as to their applicability in medicine and surgery followed. With the powerful apparatus employed, through the courtesy of the *American Journal of the Medical Sciences*, a scotogram was taken of the forearm of a patient who had had a fracture; and the manner in which the bones had been placed in incomplete apposition was clearly demonstrated. Dr. Keen called attention to the fact that this method of examination would doubtless play considerable part in future litigation arising out of such injuries and their treatment.

Asexualization of Criminals as a Prevention of Crime.

Dr. F. L. Sim, of Memphis, Tenn., argues ably in favor of sterilization of certain criminals in order to curtail the crime of rape.

Executions partake of revenge and are more than the demands of society require. It would be wiser to substitute a more humane and scientific punishment, and one that would at the same time convey a sufficient object lesson.